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THE
QUARTERLY JOURNAL
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THE MONETARY DOCTRINES OF J. M. KEYNES

SUMMARY

I. Scope of the treatise, 547.—II. The theory of prices; the equations of exchange; relation between investment and saving, 549.— Does it solve the "dilemma" of the "over-savings" theories? 553. — Specific maladjustments, 555.— Profit versus anticipated profit, 556.— III. The money mechanism. Distinction between income and savings deposits; treatment of demand and time deposits, 558. The problem of business deposits, 560. Security booms and deposits; does speculation tie up credit? 567.—IV. Bank control of prices, 573. Bank rate and investment, 575.— Market rate and "natural rate," 578. Bank control and the major depressions: the nineties, 581; — England since the war, 583; — the current depression, 584.— Bank control by action "in advance," 584.— External versus internal stability, 586.

I

A REVIEW of so comprehensive, closely reasoned, and provocative a work as Mr. J. M. Keynes' two volume Treatise on Money must be to a greater degree than usual selective. It is of course a substantial contribution to the literature of the subject. It exhibits a rare combination of penetration in theoretical analysis, grasp of mathematical statistical method, and felicity of expression. I cannot hope to give a just impression of its scope and richness. That it could have been written piecemeal over a period of years in intervals between other activities and still retain so much vitality

and spontaneity is astonishing. As one who has rather a prejudice against big books I can merely say that I have seldom read two large volumes with as much pleasure. At the same time, partly from its length and partly perhaps from the way in which it was written, it appears to suffer somewhat at times in consistency and in clarity; and I agree with Mr. Keynes that he may find a shorter and better way to say it.

The book contains what seems to me — I do not feel competent to pass judgment on the statistical analysis — a brilliantly successful treatment of the problem of index numbers and the plurality of price levels. There is also a survey of the English and American statistics on banking and the volume of investment which are most pertinent to his monetary theory, a survey which not only reveals much ingenuity in estimating but shows also how inadequate our present data are for the banking policy which he proposes. Other principal features of the treatise are an extensive comparative analysis of central bank operations and methods in the leading countries; a most impressive discussion of the theoretical significance of, and the statistical problem of measuring, industrial working capital; a study, for purposes of verification of his price theory, of certain historical periods of prosperity and depression; and an analysis of the causes of the current depression.

The introductory section includes a wonderfully compact description of the mechanism of deposit credit creation on the lines of Phillips' "able, if prolix" analysis of multiple loan expansion. This characterization of Phillips, tho true, hardly makes it clear that he was the first to straighten out a major error that had appeared quite uniformly in the earlier books and had been taught to generations of university students; by now, I have no doubt, Phillips has found a shorter way to say it.

There is included also the suggestion that in England the unused portion of overdrafts should be regarded as bank credit equally with the deposits, which raises the old question where credit ends and wealth begins. Mill included in purchasing power book credits, bills of exchange, and promissory notes, which clearly suggest double counting.[1] In the United States the English overdraft is regarded as the counterpart of our customer's loan, particularly that made under line of credit. Should one, on this reasoning, include with actual deposits the unused portion of the line of credit, and if so, why not customers' securities in safe-keeping accounts, which could be pledged automatically for new loans; and from there the mind runs on to the buildings and lands on which one can borrow money.

II

In its main argument the book contains a theory of the value of money and a theory of price control by central banks. Turning away from old versions of the quantity theory, including that which he had set forth in his earlier book "A Tract on Monetary Reform," Keynes seeks an understanding of the price level in a study of the purposes and processes of spending, a point of view which in general suggests such writers as Hawtrey, Robertson, the "over-savings" theorists, and farther back J. S. Mill.[2]

It is a theory of the relation of saving to investment, which attempts to get closer to the money-goods relationship by splitting up both money and goods into categories which reveal causal relations and thus permit the

1. But Mill had in mind the distinction between loan instruments exchanged for money and those exchanged for debts; only the latter would he call purchasing power; e.g., bills of exchange as circulated in Lancashire. See Principles, p. 514.

2. Book III, ch. 12, pp. 524, 532, 539; Ashley edition.

formulation of equations of exchange that may become in use something more than mere identities. He divides goods into consumption and investment goods, and money into what is spent and what is saved. The central purpose is to explain the price level of consumption goods, as the function of the ratio of the community's earnings to its output. The complicating circumstance is that not all income is spent for consumption goods, and not all output is offered for current sale. Saving decreases income, and the cost of producing investment goods increases income without increasing current output. Investment goods comprise all "non-available" goods, whether fixed capital, inventories of goods in process, or surplus stocks of finished goods withheld from market. An excess of investment raises prices and an excess of saving lowers prices. Given efficiency earnings, the rate of pay per unit of output, the single necessary condition for stability of the price level of consumption goods is therefore that saving equal investment; and it is the function of the banking system, through its control over the price and the quantity of money, to maintain the equality of investment and saving.

This influence must be exerted, however, upon the value (price level) of investment goods, as well as upon saving and the volume (cost) of investment. For the price level of investment goods can affect the price level of consumption goods, indirectly, in two ways: by affecting the relation of cost of investment to saving; and by affecting, in the end, the rate of earnings of the productive factors. If value of investment goods exceed their cost, the difference will be profit. Profit is neither part of normal income of the community nor part of saving; its spending is therefore a source of disturbance of the equations of exchange. If, as would character-

istically occur,[3] the profit of producers of investment goods were spent on production of more investment goods, cost (expenses) of investment goods would exceed saving, so that the community income would exceed current output at the previous price level, and prices of consumption goods would rise, yielding in turn a profit to producers of this class of goods. Profit is thus the "mainspring of change," producing an inflation which proceeds spirally until the competition of producers for the factors of production raises the rate of earnings ("income inflation") to the point where profits disappear. If at this point a new equilibrium is not established, but the process continues until losses appear, there will follow "profits deflation," "commodity deflation," and at length "income deflation." To preserve an equality of investment and saving it is therefore necessary to prevent profit or loss[4]; and therefore to maintain the price level of investment goods equal to the cost of investment goods; or as Keynes puts it algebraically, when S (savings) $= I'$ (cost of investment) $= I$ (value of investment), q (profits) $= o$, and P (prices of consumption goods) $= \dfrac{E \text{ (earnings)}}{O \text{ (output)}}$.[5]

Recognizing that all short statements are wrong, I hope this very simple summary does not do serious

3. If profits were spent directly on consumption goods, income would exceed current output by the amount of profits, and prices of consumption goods would rise.

4. Leaving only wages of management, a part of normal community income.

5. The fundamental equations of exchange are:

$$P = \frac{E}{O} + \frac{I' - S}{R}\text{; and}$$

$$\Pi = P + P' = \frac{E}{O} + \frac{I - S}{O}\text{, where } R = \text{current output of consumption}$$

goods and P' = price level of investment goods, and the other symbols are as given in the text.

injustice to Keynes' intricate analysis. As an explanation of the cyclical behavior of prices, his theory represents a distinct advance[6] over others that resemble it in general type. It is, for example, essentially different from the "over-savings" theories[7] with which its affinity appears closest. It does not occupy at all the same ground as Foster and Catchings' statement that prices fall because "money is used twice in production for once in consumption." In the latter view, saving and investment are the same thing; what is saved is invested, with the result (according to this theory) that current income cannot carry off the enlarged output of consumption goods at the previous price level. In Keynes' view, savings may not be spent at all;

> "it is a volume of saving which does *not* lead to a corresponding volume of investment (not one which *does*) which is the root of the trouble."[8]

Since producing investment goods and saving are frequently the acts of different individuals, differently motivated, there is no reason why they should be equal. In terms of the banking system, if banks are loaned up to the limits of their reserves, as is characteristically the case, a shift of deposits from demand to time deposits will not affect the aggregate of loans[9]; but it will represent a decrease of consumers' spendable balances, the substitution of an idle for an active deposit. The concept of the idle savings deposit, and the consequent distinction between saving and investment, underlie Keynes' whole treatment and constitute a valid claim

6. Keynes mentions the recent work of German monetary theorists on similar lines.

7. e.g., Bouniatian, Hobson, Foster and Catchings, Martin; some of the basic ideas go as far back as Sismondi, 1819.

8. I, ch. 12, p. 179.

9. Except to the extent of a difference in reserve requirements, as in the United States.

to his having broken new and significant ground in monetary theory.

Nevertheless, I am not certain that his distinction does not leave unsolved the "dilemma" with which the over-savings theorists are concerned. Keynes does say:

> "In so far as those theories are capable of any reconciliation with mine, it is at a later stage of events; for in certain cases a tendency for the rate of investment to lag behind the rate of savings might come about as a result of a reaction from oversaving in the above sense."[1]

I interpret this statement to mean — there is no discussion of it at the point where it occurs — that when investment exceeds saving there may at length be over-investment, in the sense of a difficulty of disposing of the consumable products of investment goods, which may cause subsequent investment to lag behind saving.[2] Keynes' statement in itself somewhat mars the precision of his theory, for it occasionally leads him to mention over-production of consumption goods, as well as the more usual "income inflation," as bringing prosperity

1. I, ch. 12, p. 178.

2. Such passages as the following perhaps indicate his meaning: "We thus have (in the secondary phase of the business cycle) under the influence of the windfall profits accruing from the price rise consequent on the primary phase of the credit cycle, a secondary stimulus to an increased volume of production, which, this time, is of an all-round character and affects *all* types of goods which are the object of general consumption." I, 288. "Now, since the secondary phase necessarily stimulates the production of consumption-goods, it follows that even where the primary phase is caused by an increased production of capital-goods, the secondary phase brings with it the seeds of a reaction, which will germinate as soon as the increased supply of consumption-goods is ready for the market. Thus, sooner or later, consumption goods will be coming on to the market which can no longer be sold at the previously ruling price; so that the downward price phase of the Cycle now commences." I, 289.

These passages indicate that it is not only (as in his usual statement) an increase in the rate of earnings caused by entrepreneurs' competing for the factors of production which brings profit inflation to a close, but also the stimulation of production of consumption goods. But in both cases it is profits making, arising from an excess of investment over saving, that causes the result, and certainly not the equality of saving and investment.

to an end. It does not, however, really touch the point of the over-savings theory, which is that even when saving equals investment, overproduction will result.[3] If a producer borrows from savers $100,000 to buy a machine which costs $100,000 to produce, and if these operations are concurrent or proceed at a uniform rate, saving = value of investment = cost of investment, and the conditions of price equilibrium are fulfilled. But there is a new productive instrument which in the *next* production period will increase output without correspondingly increasing income, so that prices will fall. In other words, in the second production period, the first of Keynes' fundamental equations is upset, for while $I' = S$, O increases relative to E, and P must fall (of course, as with any mathematical identity, the equation will still solve). It is true that if now savings decrease in precise equality with the increased output of consumers' goods, trouble will be avoided; but there is no reason to expect such an occurrence. It would be possible, assuming at all times an equality of saving and investment, to carry this process to the point where either saving ceases entirely or, failing that, prices fall toward zero, which suggests another method than the failure of entrepreneurs to invest savings whereby calamity may visit the inhabitants of Keynes' banana plantation.

For general economic theory, this situation presents no difficulty,[4] since the justification for increased supply of capital goods must always be its ability to lower unit

3. Foster and Catchings, for example, recognize that investment can exceed savings by the extent of new bank loans, and conclude that in this case there is first a rise of prices for essentially the same reason as Keynes gives: current earnings exceed current output. They do not, however, perceive the opposite possibility, that savings may exceed investment, which seems to me Keynes' distinctive contribution.

4. But see A. E. Monroe: "Investment and Saving, A Genetic Analysis," QUARTERLY JOURNAL OF ECONOMICS, August, 1929, pp. 586–7.

costs. The general and familiar answer of monetary theory would be a secular increase in the supply of money. But it would be necessary to show by what process the increase of money occurs, to whom the money goes, and how it affects the relation of saving to investment. An increase of capital goods, whether financed by saving or not, is in itself a dynamic phenomenon, involving changes in value relationships: earnings must rise with prices stable, or prices fall with earnings stable. Whether this process proceeds smoothly in the actual world or by jerks is a pertinent question; an equality of saving and investment cannot from this viewpoint be regarded as affording stable equilibrium, except in an immediate and rather superficial sense. Moreover, there are considerations of quality as well as quantity; not all investment effects a fall of unit costs sufficient to cover the fall of prices which its output entails; and losses to producers, other things equal, could upset the balance of saving and investment. Thus far, depressions have served to weed out inefficient users and producers of investment, as well as other, goods.

There is a further difficulty arising out of overproduction of specific types of investment (or consumption) goods. I see no reason why this could not occur consistently with the condition that total saving = total investment. Specific mal-adjustments tend to be lost sight of in any general theory, or to be minimized. They do not lend themselves readily to the broader logical processes. Yet overproduction in a dominant industry could readily affect an entire situation. Given varying degrees of elasticity of demand-supply for individual goods, and given friction in the adjustment of productive factors to the changing conditions of demand, a general effect on prices is likely to be produced. When,

for example, the American automobile industry was producing at the rate of six to seven million cars a year in the first half of 1929, or some two to three millions beyond the normal (a condition which can readily occur in a highly competitive industry with a productive capacity of e.g. eight million cars), it became apparent by early summer that the output was excessive. Shutting down this particular industry produced a profound effect on others. Until, in such a case, we are able to move the factors of production out of over-active industries into under-active industries, with the same speed and ease with which demand can shift, or with which a banking system can alter the terms of lending and the supply of money, specific mal-adjustments will always be a major cause of instability of the price level. The difficulty is that of economic friction. The effective cure for overproduction of automobiles, buildings, or any durable good, once it has occurred, is underproduction, which involves the lapse of time.

I have a further difficulty, arising from the distinction between profit and anticipation of profit. Profit is described as the "mainspring of change," which causes investment to exceed saving and prices to rise; but on the other hand profit is caused by the excess of investment over saving and the consequent rise of prices. There is thus a difficulty as to how the ball gets rolling. Keynes has apparently little use for the optimism-pessimism theory of the cycle, and is usually careful to say that business expectations have no significant result unless based on correct forecasting of economic and monetary fundamentals. But on the point here raised he says that as production takes time and business men must foresee what effect the relation of saving and investment is to have on demand for their own product,

"strictly we should say that it is the *anticipated* profit or loss which is the mainspring of change, and that it is by causing anticipation of the appropriate kind that the banking system is able to influence the price level. . . . Thus entrepreneurs will sometimes begin to act before the price-changes which are the justification of their action have actually occurred. . . . Widely held anticipations will tend for a short time to bring their own verification, even if they have no basis outside themselves."[5]

The question raised here is the one which is always the most perplexing in economics, and perhaps peculiarly so in the field of money, the question of emphasis. What is "a short time"? The cycle is itself a short-time phenomenon. How important expectations can be for Keynes will appear when we come to his analysis of the effect of "bullish" and "bearish" sentiment on the price of investments and through this on the price level of consumption goods. Here the point seems to be that anticipations have no effect unless they are "right"; and the difficulty is that to some extent they can make their own rightness. To some extent, surely, anticipation of profit will cause excess of investment over saving, and thus produce rise of prices, profits, and more rise of prices. Keynes' only specific reference to Pigou is a rejection of the latter's contention that bank rate depends for effectiveness on its power to influence business anticipation[6], Keynes' rejoinder being that the expectation would have no effect if it were based on an illusion. But evidently "for a short time" illusion can produce very real results. The case is even more perplexing when the bank expects one thing and the business community another. The difficulty may often be made worse by the conflicting general and individual aspects of the problem:

"When for any reason an entrepreneur feels discouraged about the prospects . . . he can reduce his output or lower his costs by reducing

5. I, pp. 160–161.
6. I, 199.

his offers to the factors of production. Neither course, if adopted by entrepreneurs as a whole, will relieve in the least their losses as a whole . . . whilst both courses are likely to aggravate their losses by reducing the cost of investment. Nevertheless these courses will in fact appeal to them, because, in so far as any class of entrepreneurs is able to adopt either of these courses to a degree greater than the average, they will be able to protect themselves."[7]

The matter could hardly be better put; the difficult question is what emphasis to give it. Keynes' general answer to this and other qualifications (including, I should suppose, those which I have previously made) is apparently that

"it is sufficient that the general tendency of a disequilibrium between saving and investment is in the sense described and that if the cause persists, the tendency must materialize sooner or later. Nor do any of the qualifications . . . affect in any way the rigour or the validity of our conclusions as to the quantitative effect of divergencies between saving and investment on the price-levels ruling in the market."[8]

But one question is whether "sooner or later" is sufficiently precise for bank control, and another is whether the "rigour of our conclusions" does not suggest that same dependence upon a mere quantitative identity for which Keynes criticizes the quantity theory.

III

Mr. Keynes points out that most theories of the business cycle fail to relate their analysis adequately to the money mechanism; particularly is this essential for a theory which proposes central bank control of prices. Tho careful to state that he does not, like Hawtrey, regard the cycle as a "purely monetary phenomenon," he aims especially to put his explanation into terms of the banking mechanism. His division of income into spending and saving requires logically a division of

7. I, 160, 161.
8. I, 161.

money into income deposits and savings deposits. Our statistics divide merely into demand and time deposits. The question becomes how nearly the one division fits the other. Keynes recognizes two classes of demand deposits,— income and business deposits; and also that deposits are used for industrial and financial purposes; so that his scheme becomes: "industrial circulation" comprising income deposits and business deposits A, and "financial circulation," comprising savings deposits and business deposits B. At the same time, it is necessary to account for changes in velocity; savings deposits are idle, but demand deposits may be more or less active or idle. He finds, however, that velocity of income deposits changes but little, that industrial business deposits in the main interact with income deposits, and that while velocity of the financial business deposits is extremely variable the amount of such deposits is small. Thus he concludes that the significant changes in consumers' spending and saving are shown by changes in the *relative amounts* of demand and time deposits. An increase of time relative to demand deposits, for example, would show an increase of saving relative to investment, for money invested would feed back into income deposits through expenses, so that a relative increase in time deposits would indicate that, on balance, money was being held idle, which would depress the price level. Keynes examines the statistics of demand and time deposits in England and the United States to show what light they throw on the behavior of prices.

In some respects this is an important advance. Fisher's equation, for example, deals exclusively with demand deposits. So far as I know all theories previous to Keynes' have failed to make use of the statistical division of deposits into demand and time. I am interested also in the attempt to get closer to velocity of cir-

culation by splitting deposits into parts and examining the velocity of each; for it is on velocity that both our thinking and our facts are vaguest. There may, however, be a danger of overstressing the distinction between the active and the *wholly* idle deposits, and understressing the greater or less activity or idleness of demand deposits themselves and the duality of their composition. The chief difficulty lies in the handling of business deposits and their relation to income deposits.[9]

The importance of the question is indicated, for example, by the fact that Hawtrey's theory of the price cycle turns peculiarly upon the behavior of "traders'" balances of money and goods. Indeed, tho Hawtrey makes special use of the point, nothing has been more familiar than the view that business men, besides borrowing more from banks in active times and paying off such debts in depression, make more active use of their own balances at the one time and convert goods into comparatively idle balances at the other. This involves changes not only in velocity but in size of business deposits. That Keynes appreciates the difficulties involved in business deposits is shown by the grounds he cites for rejecting his own earlier version of the quantity

9. To put the matter into equation form, when S (saving) $= I$ (investment), the equation for prices is $P = \frac{E}{O}$, which in monetary terms is $P = \frac{M_1V_1}{O}$, where M_1V_1 is quantity times velocity of income deposits, time deposits are represented by S, and business deposits are not accounted for. (Bank notes are included as part of income deposits.) If the quantity and velocity of business deposits merely interact with, and thus bear an unchanging proportion to, income deposits, there is no problem, but there will be a difficulty to the extent that this is not the case. How complicated Keynes' money equation becomes when he endeavors to account for *all* demand deposits, instead of income deposits alone, is shown by his formula $P = \frac{M}{O} \cdot \frac{wV_1(V_2 - V_1)}{V_2 - V_1}$, of which, so far as I have found, he makes no further use in the book.

theory: the community's balances of money held represent far more than command over "consumption units." It is shown too by his introductory description of demand deposits. There he points out that the volume of speculative transactions in capital goods or commodities is "subject to very wide and incalculable fluctuations," and that "unfortunately" they are also large enough "compared with ordinary transactions arising out of production and consumption to confuse the statistics"; indeed the latter transactions are "swamped by business transactions of other kinds," and

> "the proportion, K_2, of the average level of the business deposits to the volume of the business transactions may be quite different from K_1, the proportion of the income deposits to the income transactions. Also it is likely both to vary differently and to be much more variable."[1]

I am not certain, however, whether the point receives its due value in his subsequent more detailed discussion of business deposits, and more especially in the logic and the statistical demonstration of his theory. To my mind the difficulty is not due entirely to the speculative and financial transactions, but also to the cyclical movement of ordinary production and consumption, which involves a net flow of balances to consumers in active times, and a net flow to producers in quiet times, a movement which, tho likely to be greatly enhanced in depression by liquidation of speculative stocks of commodities, would occur in any case. The speculative and financial business transactions Keynes classifies as affecting "business deposits B," which he says are small in amount tho highly variable. This would suggest that such transactions create their own funds, so to speak, by velocity changes within business deposits B; and that these deposits, remaining small at all times, would not impair his conclusion that changes in *amount* of

1. I, 48.

demand deposits reflect essentially changes in amount of income deposits. He has already said, however, that business transactions "confuse the statistics," and in the second volume says that we have no direct evidence of either the size or the velocity of business deposits. The familiar division of bank debits in the United States as between New York and "outside" is intended to segregate the effect of speculative transactions, tho everyone recognizes that it does so very imperfectly; and of course New York deposits as a total are far from small. In calling business deposits B a small fraction of total demand deposits Keynes is evidently thinking of the economy of stock exchange clearance. Yet the funds used to clear security transactions in New York are but a small part of funds used throughout the country for security transactions; moreover they do not include balances used for speculative commodity transactions, which he also includes in business deposits B; and in any case do not touch the question of size and variability of "business deposits A," which is part of industrial circulation.

Keynes' discussion of business deposits A[2] points out, first, that obviously part of such deposits merely interact with income deposits (remuneration to the productive factors feeding sales to consumers) so that the two bear the same proportion to each other in size and in velocity; and second, that "in equilibrium" prices and volume of transactions of unfinished goods (working capital) and fixed capital goods will move parallel to and reflect the prices and the rate of flow of finished goods, so that the quantity of this

"part of business deposits . . . will also tend in these conditions to vary in the same proportion as do the income deposits."

2. See I, ch. 15, section 2.

But these conclusions only suggest that if there were no business cycle there would be no difficulty, which I grant. Keynes does then recognize: (1) that changes in *relative* prices upset the ratio between the two classes of deposits; (2) that when business is active and bank rates high, firms will economize in balances held, and vice versa (whereas consumers' outgo is tied to size and regularity of consumers' income so that "short period fluctuations of income deposit velocity are inconsiderable"); and (3) that business balances may be influenced by profit or loss

"which . . . can affect price levels . . . out of proportion to the change, if any, in the volume of income deposits."

These are very large qualifications, but he concludes:

"Nevertheless, in the main the volume of the industrial circulation will vary with E, the aggregate of money incomes, i.e. with the volume and cost of production of current output."

Does "in the main" mean apart from the business cycle? Thus Keynes reaches his general conclusion, which the logic of his theory requires, that changes in the demand deposits (essentially in the income deposits) are

"generally a good index of changes in the industrial circulation; and, similarly, changes in the savings deposits of changes in the financial circulation — which fortunately brings us back to classes of deposits of the magnitude of which we have in practice moderately good statistical indications."

The matter is partly one of emphasis, and shows how important such questions can be when a writer like Hawtrey can make one element in the case an important feature of his analysis,[3] and another, tho recognizing that element as a qualification, begins and ends with an essentially opposite view. At bottom the question is one of fact. To the extent that business deposits, when

3. Variability of business balances of money (and goods) relative to income balances.

idle, are transferred to time deposits, and when active merely interact with income deposits, Keynes' case becomes stronger. It is probably true that idle business deposits are so transferred in England to a greater extent than in the United States, and to a greater extent here at present than before the war.

The pronounced growth of time deposits in this country is a post-war phenomenon not yet fully understood. In part it is thought to represent a growth of thrift deposits. In part it undoubtedly represents the changed financial practice of corporations, especially since 1921 when the presence of large inventories financed by bank loans was perhaps the worst feature of the depression. Not only because inventories have since been more closely controlled but also because of a changed attitude toward bank loans in general, it has become the familiar practice of the larger corporations to finance their requirements out of their own funds (or funds secured directly from the public) and to maintain a stronger cash position. That this development has been accompanied by so large a growth of time deposits is hardly a coincidence, and it fits into Keynes' view. On the other hand, there is little evidence of cyclical variation in these deposits. In part, also, these deposits represent, as Keynes points out, the competition of banks for deposits, and the effort to get around the greater reserve requirements of demand deposits; moreover interest is often paid upon demand as well as time deposits, tho at a lower rate, so that the distinction between the two sorts of deposits becomes in actuality rather blurred. It is not possible to believe, in any case, that *all* idle business deposits by any means are transferred to time deposits. The demand deposit is the more available and convenient, interest is paid on both, and particularly in periods of generally low rates the

difference will not always be regarded as worth while.[4] It should be noted too, as a practical matter, that even when idle deposits are actually transferred from demand to time deposits the former will not, under American conditions, be greatly reduced, owing to the difference in reserve requirements. A transfer of $1,000 would release, for example, $70 of reserves and permit an increase in loans and demand deposits of $700 in the banking system. What this means is that transfers to time deposits are largely offset by an increase in total deposits, and transfers from time to demand deposits by a contraction of total deposits, a circumstance which strengthens one's feeling that, so far as this country is concerned, the more significant changes, as regards their effects on the price level, are those which occur within demand deposits themselves. In England, the same reserve ratio is applied to both demand and time deposits.

4. While the available statistics do not tell us much on the point, they perhaps permit one to draw the inference that idle business demand deposits are in depression an important magnitude:

(In billion dollars)

Call Dates	Time Deposits	Total Demand Deposits Unadjusted	Adjusted United States	Demand New York City	Deposits Country Member Banks
Feb. 1928	12.9	18.2	16.1	4.1	5.8
Mar. 1929	13.3	19.5	16.4	4.2	5.8
Mar. 1930	13.5	18.2	16.2	4.4	5.5
Feb. 1931	13.7	18.4	15.9	4.5	5.1

Demand deposits are adjusted to include individual demand deposits plus certified checks and travellers checks, and to exclude bankers' balances due to and due from other banks, and all items in process of collection. Column 3 includes also government deposits, while columns 4 and 5 do not; the inclusion of government deposits in New York would not change the nature of the result; the figures would read, 4.1, 4.4, 4.5, 4.7; they are omitted in order to get as close as possible to business balances. From the active year 1929 to the depression bottom in 1931 total time deposits increased $400,000,000, which is about in line with the secular growth since 1914 and especially since the war, and does not therefore necessarily show that idle balances went into time deposits. Adjusted demand deposits (=the actual means of payment) declined $500,000,000; county bank deposits declined $700,000,000 and

Of course to the extent that idle business deposits are not converted into time deposits, they can still be included for theoretical purposes in Keynes' savings;[5] but from a statistical point of view the theory then becomes less clear-cut and less useful. The awkwardness would be that, so far as idle business deposits are demand deposits, they bear an *inverse* relation to income deposits; in prosperity they feed into income deposits, and in depression feed back into idle business deposits. The result is that the *total* of demand deposits may undergo little change from prosperity to depression, while yet the volume of consumer spending may be profoundly affected. I incline to agree with Keynes that the velocity of income deposits is not much changed in the course of the cycle,[6] outgo depending mainly on income, so that changes in *amount* of such deposits are chiefly significant, but the difficulty would be to *see* these changes, disentangled from opposite changes in business deposits.[7]

New York deposits increased $300,000,000. (I have not at hand the intermediate classification, reserve city banks.) Since bankers' balances ("due to" and "due from") are omitted, their concentration in the center in quiet times is abstracted from, and also the holdings of government deposits. The assumption is, I think, warranted that New York deposits are affected by business balances to a greater degree than are country deposits, since large corporations would keep their balances primarily in the financial center where their headquarters are. It therefore seems a fair inference from the opposite changes in the two categories that, as suggested in the text, during the business cycle business deposits and income deposits, both comprised within demand deposits, vary inversely to each other. The corrections of demand deposits, designed to show the true community means of payment, have been made by L. B. Currie, on his own formula, from data derived from the Abstract of Member Bank Call Date Reports.

5. But it is really not so simple as this; it is not merely a matter of what happens to *wholly* idle business deposits, but a question also, as Keynes' three qualifications show (see p. 563 above), of quantity and velocity of business deposits that are *not* wholly idle.

6. Tho there are important changes in circuit velocity.

7. There is the equal difficulty of disentangling business deposits. Data on corporations' cash balances would throw some light, but would usually include securities and would not distinguish between demand and time deposits.

How much importance Keynes attaches to the distinction between time and demand deposits, as expressing essentially the difference between saving and consumers' spending, and how possible, to my mind, it is to overstress the point, is best seen in his extended discussion of a speculative security boom. This analysis, I must confess, I find very confusing. Its main purpose is to explain the price level of investment goods, and the effect of this upon the price level of consumption goods. Up to this point the references to investment have been in terms of goods and goods prices; and the price level of investment goods has been explained as reflecting the rate of interest and the prospective demand for the utilities (or products) of such goods, a low rate of interest, for instance, being capitalized into a high price of investment goods and this result being modified up or down by entrepreneurs' judgments of prospective demand. But now the price of investment becomes the price of securities representing title to such investment goods. (I am not sure whether it is intended that the reader should infer that because United States steel common goes from 100 to 250 the prices of steel goods or of steel plants necessarily rise correspondingly; in our recent boom that was far from being the case.) Also, instead of considering, as hitherto, the relation of *current* saving to current new investment, attention is directed to *all* saving and all investment, and particularly to old securities; for the effect of the boom on new security issues and new investment goods, is discussed as a distinct and separable point.

Keynes sets forth four phases of a security market cycle. Securities may go up by common consent, in which case savings deposits are transferred through securities to demand deposits, and commodity prices rise. Or securities may go down by common consent,

in which case the opposite shift occurs, and a fall of commodity prices. These two phases are simple, but two other phases remain: sentiment may be divided, sone people bearish and others bullish. With security prices still rising, some holders may sell out and establish savings deposits. These he calls "the bear position." If, as they sold out, the banks bought securities, the increase of savings deposits would be offset by new demand deposits created by the banks, and commodity prices would not be affected. This, I believe, is what he means by the often recurring statement that the banking system can influence and control "the bear position." The operation would, of course, require new money from the central bank and would mean an increase in *total* deposits. Or the banks could make new loans to individual buyers of securities, with the same result. But there is a way, according to Keynes, for "the bear position" to make itself felt in an increase of savings deposits relative to demand deposits at the same time that security prices are rising. This way is provided by "loans for the account of others"; and here he is obviously thinking in terms of our security boom of 1928–29.

The savings depositors, having sold out, now lend directly to the new buyers. Keynes evidently satisfies himself that in this case savings deposits have increased on balance, so that commodity prices will fall; and this notwithstanding that the deposits are loaned out again and thus transferred, one might suppose, to active circulation. The point apparently is that such loans will not affect the quantity of *deposits as a whole*, since they are not loans made by banks, and that therefore, the security sellers having established saving deposits, and deposits as a whole being unchanged, the proportion of savings deposits to demand deposits must be

increased; so that commodity prices fall. But, so far as I can yet see, the savings deposits were, in effect, never made if they were loaned out again by their holders: the holders cannot have them and not have them at the same time. That deposits as a whole do not grow, in such a case, while loans do, is perfectly true, a point to which I shall come back later. The fourth phase of the security cycle is the opposite of this: security prices are falling, but with sentiment divided; savings depositors are buying securities on balance, presumably from margin holders who have debts to pay. Savings deposits decline relative to demand deposits and commodity prices rise.

The points that interest me most in this analysis — there is not space to describe it in detail — are his treatment of "loans for account of others," and especially his demonstration that money that comes out of savings deposits must go into "industrial circulation," and hence must cause a rise of commodity prices; and contrariwise. The essential point in Keynes' proof is that security speculation cannot absorb credit, so that there is really nowhere else that credit can go except into savings or income deposits, depending on the phase of the security cycle. It therefore follows that the banking system by its power to offset changes in savings deposits through its own lending (and resultant creation of demand deposits) has the key to the commodity price level. Except to this extent, and for this purpose, the banking system has no interest in controlling a security boom.

The contention that security speculation does not tie up credit and deprive industry has been made by a number of monetary writers in recent years, and has been the principal ground for criticism of Federal Reserve policy in 1928–29. Besides Keynes, one thinks of

Reed, Calvin Hoover, Rogers, Cassel, Foster and Catchings, and others. Keynes, I believe, goes farther than any of them in that he contends that security speculation positively increases industrial circulation and raises commodity prices; and this not through expansion of bank credit as a whole or through its effect on new security issues and consequent investment goods expansion (tho he makes that point as well), but through releasing savings deposits, old as well as new, into active consumer spending. The explanation is of the same kind that other writers have given — the extraordinary economy of the machinery of financial clearance. Professor Calvin Hoover has shown that deposits were not diverted from the country to New York, and Professors Reed and Rogers have demonstrated how little net movement of deposits is involved in margin trading through brokers.

While impressed by the apparent unanimity of opinion, I have felt that economy of clearance and failure of deposits to be diverted to New York do not dispose of the question. A rise in security prices suggests that in some sense or other more aggregate spending upon securities is involved. The analogy with the ordinary money-goods equation is obviously indicated. Higher prices would there mean more money exchanged for the same goods, or at least a relative increase in money spent. By analogy with the language of the recent debate over speculative use of credit, this fact could be expressed as the "tying up" of money in goods, which would not be thought to mean that the money actually froze upon the first act of purchase, but only that, in the given period of time, the money was absorbed continuously in the exchange for goods. Moreover, if the trading involved, for example, buyers and sellers in Chicago and Boston and the payments were cleared

through New York, and if the two-way transactions were equal, as would be the normal expectation, there would be no reason to expect either a diversion of deposits to New York or a great amount of transfer of deposits between the two trading centers, while at the same time *some* clearing balances in New York would clearly be necessary, and if transactions were numerous these would show a high velocity of circulation. Still it would be clear that a higher price level of goods could occur, and that it would be due to greater spending of money relative to the volume of goods traded. The greater spending would represent a greater use of deposits in the two trading centers, rather than in New York, and a greater use of deposits *by the traders*, not necessarily a shifting of deposits on balance from bank to bank between the trading centers. The spending by depositors would explain the rise of prices completely. Moreover, with banks loaned up, the total of deposits could not be increased (barring new money), and this particular use of deposits by their customer owners would prevent any alternative use to which the deposits might have been put.

I am unable as yet to see why the analogy with the security market is not complete. To the extent that individuals all over this country, and abroad, bought securities with their bank deposits, and that the process was continuously repeated during the period of the boom, there was, in precisely similar fashion, a particular use made of bank deposits and a precisely similar result expressed, in the rise of security prices; and to the extent that this process occurred the deposits were not put to some other use; and with banks loaned up (quite apart from the fact that total deposits were actually curtailed by Federal Reserve action) no other deposits to perform such other uses could be created.

It would follow that money attracted out of savings deposits would neither have to lodge in Keynes' "financial business deposits" (the New York clearance fund) nor be conceded to have been added to consumers' spending; it would be "tied up" in securities. Moreover, security markets could absorb money, in the same sense, from income deposits themselves, representing an alternative to their transfer into savings deposits. Both of these possibilities, incidentally, raise questions about the banking system's ability to control the commodity price level by reference to the behavior of savings deposits; and also as to the conclusion that the central bank has no concern with a security boom except as the relation of savings deposits to industrial circulation is affected.

The treatment of loans "for account of others" is a related point. These loans show how an increase of loans can occur without an increase of deposits. The deposit is merely transferred to another user, but since it is transferred by the depositor, the banking system being already loaned up, it constitutes a net addition to loans. In this particular case, since the (time) deposit is loaned by one who would have kept it entirely idle to one who puts it to use, the significance of the transfer depends upon the kind of spending to be done. It is of course quite possible that the deposit will go through the security market into some industrial use, but to the extent that such loans are being made continuously they indicate one particular sort of spending, whereas (a) there would have been no spending at all had the savings depositor retained his deposit, or (b) there would have been some other sort of spending had the depositor loaned to a different type of borrower. The fact that when these loans are called for payment by the lenders, security holders must sell, thus depressing security prices, or transfer their loans to the banks,

involving a net increase in total deposits tho not in total loans, and requiring resort by banks to the central bank for new money, would also seem to indicate in what sense security speculation ties up credit.[8]

IV

Bank control of the price level is the dominant theme of Mr. Keynes' book. He calls it "the crux of the whole matter." Yet I am not quite sure what he finally thinks about it. It is here that one really feels the length of the book and the piecemeal character of its preparation, which have inevitably resulted in some shifting of emphasis as first one and then another part of the complicated analysis has come up for intensive examination. Over the whole period the writer's attitude on the general question may, very naturally, have undergone some degree of change. Since Keynes has had the courage to combine in one book proposals for practical policy and a fundamental theory of value, there is raised the question how consistently the two are combined. The warmth of the reformer and the cold logic of the theorist may sometimes make a lumpy solution unless very thoroly stirred. Toward the end of the second volume Keynes quotes the adverse testimony of the late

8. I wish to make it clear that I take no position here on the question of *fact*, whether in 1928–29 speculation deprived industry of credit; I am dealing only with the theoretical questions raised by Keynes' analysis. For one thing, new issues represent a means whereby deposits could and did go into industrial circulation. But Keynes has distinctly barred out new issues, which he treats separately and in the same sense that I do. Moreover new issues would not account for the rise of security prices but would tend to depress these prices. I recognize, too, that to the extent that speculation was by traders, through brokerage accounts, Professor Reed's point about the economy of the whole process has force. But this does not touch my own point, which rests on the fact that securities were bought by people all over the country through their bank accounts. The whole subject is beclouded by the fact that reserve bank action was contracting the total of deposits.

Governor Strong and of Walter Stewart before our congressional committee on the stabilization bill in 1926 and concedes considerable weight to their objections; but he points out that they had not the benefit of a theory which explains the effect of bank rate on investment and saving. Yet, tho now equipped with such a theory, he confesses to have "more sympathy today than I had a few years ago with some of the doubts and hesitations . . . expressed." On the whole I feel that he thoroly believes in the ability of central banks to control prices, but is more impressed by the complex nature of the problem, and more inclined to limit his claims and to recognize important qualifications, than when he published the "Tract" in 1925.

The literature of price stabilization is already extensive; indeed since the war no monetary subject has been so much debated. Keynes thus writes against a very large background. That he has significantly advanced the discussion is not to be doubted. The usual statement of the case for bank control of prices proceeds directly out of the quantity theory of money. Bank rate controls the quantity of money which controls the price level. To elaborate a little, the central bank by its rate controls the size of member bank reserves (if necessary it can control reserves by open market operations); since member banks are always "loaned up" to reserve limits, a change in reserves will mean a change in the amount of loans, which will mean a change in the amount of deposits; a change in deposits will produce a change in the price level. But this explanation is too simple and begs some important questions. Like the quantity theory, it assumes "other things equal." Only if velocity remains unchanged will a change in deposits mean a corresponding change in the effective quantity of money, and only if goods remain unchanged will a

change in that quantity produce an equal change in prices. Since velocity is subject to change during the business cycle, that proviso is extremely important. And since the change in quantity of deposits proceeds out of a change in quantity of bank loans, the presumption is that more deposits rest on more goods. The simple quantitative comparison of money and goods provides no explanation of how money is spent. If to have more money we must have the banks make more loans, who borrows and for what purpose? Different kinds of transactions require different amounts of money and have different degrees of effect upon the price level.

In one of his most interesting chapters Keynes traces the different strands of thought regarding bank rate. Hawtrey, he recognizes, gets closer to the matter than most others by attempting to find the borrower. In Hawtrey's view, the "trader" is peculiarly sensitive to bank rate, because bank interest is his principal cost; and since (according to Hawtrey) the trader occupies the key position in industry, giving the orders which induce the manufacturer to employ the consumer in production, more borrowing by the trader means more consumer spending. Moreover, if the rate is low, the trader will be more willing to carry stocks of goods on borrowed money, which will mean an increase of consumer income and spending relative to current sales of consumers' goods. Keynes makes the familiar, and I think entirely sound, criticism that the trader is more sensitive to prospective demand for goods than to the cost of borrowing. On similar grounds, he rejects Marshall's explanation that the new money gets into circulation through borrowing by speculators, and cites Tooke's criticism of a similar suggestion made by Petty — speculators who think in terms of ten per cent or

more are not controlled by a change of bank rate from three to six per cent.

Keynes then produces his own deus ex machina. The sensitive borrower must be someone for whom a small change in bank rate will mean a large change in cost or price and to whom, moreover, bank cost is really vital. This is the investor. Keynes' case is strengthened by the fact that the saver also, tho to a less degree, is sensitive to bank rate, and in an opposite direction;[9] so that a higher rate will mean less investment and more saving, and vice versa. Thus the central bank, controlling the relation of saving to investment through the rate, prevents profit or loss and maintains the equality of community earnings and output at the stable price level.

Among the many questions which this analysis raises, we may start with two. Keynes' "investor" seems better than Hawtrey's "trader," but the questions to be answered are the same: how sensitive to bank rate is the investor and how sensitive to other influences? The answers are complicated, as I shall point out later, by the fact that Keynes himself designates Hawtrey's trader as one type of investor, and presents elsewhere a most impressive analysis of working capital and liquid stocks of goods which I cannot but feel considerably increases the difficulties of analyzing bank control; yet in his final summing up, he appears to forget this analysis, or at least to emphasize it very differently.

It is unnecessary to present Keynes' proof in detail. He recognizes that bank rate affects directly only short-

9. Then there is the fact that quite apart from, or in addition to, effects of bank rate on current investment and saving, the banking system can "offset" changes in *total* savings deposits caused by security speculation, by itself buying or selling securities and thereby affecting the ratio of demand deposits to savings deposits. Since I have dealt with this point in Part III, I make no further mention of it here.

term money rates, but says that money flows over into the long-term market. The essential fact is that banks are always "loaned up," so that when the rate is lowered and reserves are increased, the decline in profit on short-term loans will lead banks to buy bonds.[1] Bank buying puts up bond prices and reduces yields, and the movement broadens as other investors, afraid to "miss the bus," also buy. Speculators, anticipating investors and encouraged by low carrying charges, give an impetus to the movement. Issue houses assist, holding off new issues when rates are rising for fear of spoiling the market for previous issues, and stimulating new issues when conditions are favorable. Meantime, since bond borrowing involves comparatively large amounts and is made for long periods, slight differences in rates represent important differences in cost, and rate changes can therefore hasten or retard bond issues. Also, there is always an "unsatisfied fringe" to whom the banks can lend, so that the matter is not merely one of sensitiveness of borrowers to the rate. Finally, bond rate affects *value* of investment relative to cost, a low rate being capitalized into a high price of investment goods. Thus value of investment can be controlled relative to cost of investment, and therefore profit or loss, while at the same time saving is oppositely affected; hence the price level of consumption goods is controlled by the central bank.

To this line of reasoning there is one large objection. The price level is affected by demand for money as well as by price and supply of money. It is a two-sided matter. While insisting, I think rightly, that his investor is far more sensitive to bank rate than Hawtrey's trader, Keynes recognizes that he is sensitive, also, to

1. Keynes cites Rieffler's Money Rates and Money Markets as showing the sensitiveness of long term rates to short-term.

"prospective demand" or what we may call people's judgment of the business outlook. Indeed Keynes' "value of investment," the crucial point of his whole structure, is determined not only by the capitalized rate of interest but by "prospective demand" for capital goods or their products. He insists, quite rightly, on this dual determination and points out the commodiousness of his theory, since from this side it embraces such theories as Schumpeter's "innovations." Prospective demand is the rock on which many theories of bank control finally break; it is the rock that, according to Keynes, has wrecked Hawtrey and Marshall.

Keynes' solution is that suggested by Wicksell in 1898. Prospective demand helps to determine the "natural rate" of interest; the central bank controls the market rate. The natural rate is that at which investment and saving are equal; it varies with the community's judgments of the changing business outlook and with the supply of savings. Over this rate the central bank has no control, except of a secondary nature. Its task is therefore to adjust the market rate to the natural rate, putting it above if the need is for contraction of investment and below in the opposite case. I cannot help feeling that this distinction between market rate and natural rate does not advance us at all. It sounds like a solution of the difficulty, but amounts merely to another way of stating the difficulty. If the natural rate were visible, the case might be different, but only the market rate is known. The natural rate is an abstraction; like faith, it is seen by its works. One can only say that if the bank policy succeeds in stabilizing prices, the bank rate must have been brought into proper line with the natural rate, but if it does not it must not have been. If bank rate is lowered but fails to stimulate investment relative to saving, it will be

because the natural rate has fallen still lower, which sounds suspiciously like saying that people do not want to borrow and spend in view of the business outlook.

I believe it is Mr. Robertson who has said that you can raise bank rate to any desired extent (tho it is difficult to know in advance how high and how rapidly to raise it), but you cannot reduce it below zero. Some of Keynes' points about the effectiveness of bank rate seem to cut both ways. For example, as to the "unsatisfied fringe" of borrowers, it is true that discrimination and rationing of borrowers are important influences in the money market, but both in prosperity and in depression they seem to work in the opposite way to that which Keynes suggests. In prosperity bankers are less conservative and in depression more conservative. The result is that credit is most readily expanded when it should not be, and least readily when it should be. Nor is this entirely due to a state of mind. As a central bank official recently remarked to me, the trouble with our bond market in the past year (1930–31) has been that companies whose bonds people want will not borrow, and bonds of companies who will borrow people do not want. This condition affects no class of bond buyers more acutely than the banks. The result is a concentration of bank investment in highly seasoned (mainly government) securities. This condition is also in line with the remark, often made by the bond houses, that while highest grade issues reflect the price of money, most issues reflect earnings and prospective earnings. For the most part, in the past year the state of earnings appears to have dominated our bond prices; the general average price has ruled lower than a year ago despite extreme ease of money, but the bonds of those public utility companies whose earnings have been

maintained have risen in price. Moreover, new issues have been less than in the previous year.

Of course, with a bank rate unprecedentedly low the difficulty — on the reasoning just stated — must be that the "natural rate" has been still lower, and the presumption would be that the market rate was not low enough. Criticism of central bank policy usually takes this form. If the central bank had not acted, or had acted in the wrong direction, the criticism would be obviously pertinent. But the more usual case is that the central bank did not go far enough; or tho it did act in the right direction, it failed to do so at the right moment, the critics having the benefit of hindsight. While there is frequently merit in such criticism, there must also come a point where its ridiculousness becomes apparent. There are times when business activity and prices are not primarily matters of money rates. Pumping money into the bond market through the banks does not insure a better bond market (still less a greater aggregate, or a right kind, of spending), if as the banks buy more bonds others buy less. In monetary terms, the crux of the matter is that, while banks control the physical quantity of deposits, depositors control the spending of them, and changes in quantity may be offset by changes in velocity or in direction.

Keynes several times mentions the "awkwardness" of new money's getting into the "wrong hands." He mentions especially the possibility that money intended for home investment may go into foreign investment, which has been one of England's chief difficulties. But there is also Hawtrey's trader, who though rejected must not be forgotten. Just because the trader and the speculator are more concerned with prospective demand, as they see it, than with bank rate, they are apt to prove a hindrance rather than a help; they will bor-

row in spite of high rates and will not borrow tho baited by low rates. And the trader is "one kind" of investor. There is the possibility, also, that high rates, while depressing bond prices and bond issues, may not depress stock prices and stock issues, so that investment in capital goods goes on despite central bank policy, the speculators shouldering the cost while industry expands at slight expense. Then too there is the fact that cheaper borrowing, "since it lowers the cost of production of all types of entrepreneurs" may stimulate all alike to increase their output. Keynes mentions this possibility, but adds that "with correct forecasting this should not be the case"; the money should go only into capital goods; but he adds further,

"Since entrepreneurs are not always acquainted with such reasoning, easier credit is, it is true, liable to provoke mistaken forecasting."[2]

I do not question the fact that bank control of the price and the supply of money is an important factor in determining business conditions and prices, but I do not know how to determine *how much* of a factor it is relative to others, or within what time interval or to what extent a change in monetary conditions will affect general business conditions and the price level. In ordinary times, the problem is mainly one of smoothing out minor variations and presents no special difficulties. It is in connection with the great "conjunctures" that the questions about ability to control are acutely raised. I have no firm conviction that in any one of the six major depressions since 1875 (excluding the outbreak of the war) money was or could have been *the* dominant factor in the situation, tho it was an important factor in all; while another factor, the question of the standard, was certainly very prominent in this country in 1875–79 and in 1893–96.

2. I, p. 211.

Keynes discusses at length some of these periods. He is especially troubled by the period of the nineties. He finds that it presents, in the terms of his theory, a severe and prolonged commodity deflation, "developing and persisting in spite of a great increase in the total volume of bank-money."

"Could the Bank of England have prevented the deflation? In the matter of Bank-rate it did what lay in its power to make credit easy."

"Between 1890 and 1896 the total stock of gold in the Bank of England was doubled, the Bank's reserves were nearly trebled, and its deposits nearly doubled. For two and a half years the Bank-rate stood unchanged at 2 per cent. Meanwhile the deposits of the banks other than the Bank of England increased by 20 per cent. In short, the period was marked by extreme ease of credit."

He says the trouble was that people would not invest:

"There was a prolonged withdrawal of entrepreneurs from undertaking the production of new fixed capital on a scale commensurate with current savings."

Foreign investment was at a standstill, owing in large part to the Baring Crisis (which, of course, was a sheer case of over-expansion in Argentina, not to be cured except by digestion and growth involving the lapse of time); meanwhile there were no "*new inventions* to absorb the redundant savings at home." He says "it is not obvious what further action the Bank of England could have taken." Of course, "open market" policy had not been heard of, and the purchase of securities by the bank "might have done something," but

"the Bank's 'proportion' rose to 70 per cent in 1893 and 1894" and "consols were already high in price and it must be doubtful whether purchases of consols by the Bank of England would have done anything material to stimulate investment."

He gives it up finally, and falls back on the suggestion of "strenuous measures" by the government, "large programmes" of public works and "government guarantees," evidently overlooking the fact that it had

been just such programmes and such guarantees (to the railroads) which had caused the Baring Crisis in Argentina.[3]

There is not space to review Keynes' treatment of later periods. He evidently finds England's difficulties since the war to be deeper than the monetary alone; in particular, wages will not come down along with prices, and investment goes abroad instead of into home industry. This is one of the "awkwardnesses" previously mentioned. He suggests that if the reason is that investments earn more abroad, England should give three per cent bounties to home investment, which I think means in effect that investors should receive from the exchequer checks for the difference between home and foreign coupons. To my mind this is like sweeping back the ocean with a broom, and a broom badly frayed already by high taxation. England's trouble is a bad balance of productive factors, too much labor and capital for her natural resources; a condition which represents a late phase of the whole cycle of change which began with foreign investment in the sixteenth and seventeenth centuries. Since the war, British trade has not responded sufficiently to British foreign investment, and the more true this becomes, the more the incentive to foreign as against home investment. The cumulative effects are just the opposite of those which prevailed in the nineteenth century, when England, possessing both a surplus of capital and industrial advantages over other nations, concentrated in decreasing cost industries and bought from abroad products of increasing cost industries, largely developed with the aid of her own capital; with the result that the more capital she applied to foreign investment the more she had for home investment.

3. II, pp. 164–170.

Keynes finds the fundamental cause of the current depression to be a persistent gap between long-time interest rates and short-time interest rates, particularly since 1925. It will be recalled that his theory of price control rests on the contention that there is no such gap, that money flows over from the short-term market to the long-term market, which is very sensitive to bank rate. Evidently, then, there have been some non-monetary difficulties, affecting "prospective demand," which are not sufficiently amenable to monetary action.

"The war, the post-war reconstruction, the epoch of 'artificial' borrowing have kept rates up for fifteen years to a level which would have seemed a generation ago quite beyond reasonable probability. Consequently a first-class bond yielding 4½ to 5 per cent, at a time when the short-term rate is not much above 2 per cent, does not strike the modern financier as the outstanding bargain that it would have seemed to his father."

He thinks that "in time" the gap will disappear, "in time the multitude will move"; and that if banks would reduce the rate of interest allowed to depositors to ½ per cent and central banks would engage in open-market operations "à outrance," the process would be hastened.[4]

Many of the qualifications which I have made to bank control of prices Keynes, I think, would grant; indeed a number of them I have quoted from Keynes himself. But I cannot think that we agree as to emphasis; nor do I think the qualifications are consistent with such statements as that the "banking system . . . can by the terms of credit influence *to any required extent* the volume of investment."[5] Keynes agrees that booms and slumps, particularly the latter, are difficult and perhaps to some extent impossible to control by bank policy. The real problem is to prevent their occurrence.

4. II, ch. 37.
5. II, p. 346.

But this, as he points out, requires action "at the right time," which is in advance. This was the point of view of the Federal Reserve Report of 1923, which pointed out that prices are symptomatic of processes already under way, and that, since to control a price movement once started is difficult if not impossible, control would have to begin sooner; its view was that such action by anticipation is hardly possible and might even do harm in the absence of more certain fore-knowledge than now seems obtainable. The late Governor Strong's opposition to price control was based partly on the same ground, tho he dwelt also on the complexity of prices, and the difficulty of correcting some prices without doing injury to others.[6] To my mind, also, Keynes' very interesting discussion of the cyclical behavior of working capital provides another illustration of the difficulty of controlling booms and slumps by bank rate, once they are under way. Bank rate, in his view, can control fixed capital investments, and his final reply to his own treatment of working capital would seem to be that if you maintain stable prices such difficulties will not arise. But action in advance requires correct forecasting. It cannot be denied, I think, that thus far the record of the professional forecasting services has been far from perfect. The problem becomes harder rather than easier if action must be in advance. The point may be illustrated by another quotation. Keynes concludes his discussion with the words:

"I am writing these concluding lines in the midst of the world-wide slump of 1930. . . . Thus I am lured on to the rash course of giving an opinion on contemporary events which are too near to be visible distinctly."

But if one doubts one's ability to diagnose this depres-

6. There are many such situations, e.g. as between manufacturing and agricultural prices.

sion now, how can one expect the central bank to have diagnosed it correctly in advance?

There is not space for further discussion. I have left out entirely Keynes' treatment of the international side of price control. He recognizes this to be the principal stumbling block under present conditions. It is necessary to maintain an equality of the balance of foreign lending and the balance of foreign trade, as well as of saving and investment at home, in order to maintain stability of prices. But almost no central bank, acting by itself, can do both things at once, and nations really have to choose between internal and external stability. Changes of bank rate may have opposite external and internal effects. This is profoundly true, and is a sufficient reason why bank policy in the future must be based on international coöperation. He discusses very interestingly the possibilities of "supernational management." Again, while I agree with very much of it, I feel less optimistic than he does. Perhaps the chief advantages to be hoped for from a supernational bank and close coöperation between central banks are such things as economy in international clearance (relieving pressure on gold reserves and more especially the unreasonable fears which arise therefrom), smoothing operations, even sometimes of emergency character, and perhaps an educational advantage in disseminating through the world better knowledge of, and a greater desire to achieve, banking economy in the supply of money. The young countries, especially, could revise their banking systems to good purpose. Of more exalted claims I am rather skeptical. Particularly in international markets do we find friction, heterogeneity, unequal development, differences in business organization, unequal sensitivity to monetary and other factors. Keynes seemed to feel this sort of

thing particularly (indeed to a much greater degree, I should have said, than myself) in his controversy with Professor Ohlin about reparations, where he emphasized the "stickiness" of Germany's foreign trade situation and the danger of applying the theory of liquids. England's foreign trade since the war is another good illustration. So long as friction and heterogeneity are found between and within countries, the realization of the goal of world price control even by a supernational bank will, I fear, be imperfectly realized.

In concluding this extended review, I wish to express again a sense of my shortcomings. These two volumes contain much difficult reading, and it may well be that on further study some of the points which have bothered me, difficulties which I have here sought to express, may become clear or be removed by other writers. I recognize, too, that in giving emphasis to certain phases of the analysis, I am omitting others perhaps equally important. In particular, I am giving no attention to index numbers and their availability for guiding monetary policy; a most perplexing matter, as Keynes brings out in his first volume. The treatise provides room, indeed, for half a dozen reviews; no better tribute can be paid to its substantial character. It is very probable, moreover, that in selecting some points on which I feel a difference with the writer, as perhaps one inevitably will do in reviewing a work that really interests him deeply, I have been guilty of a distortion by no means intended, and have failed to express adequately my appreciation of one of the most stimulating and attractive books I have read in recent years.

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RAYON AND THE TARIFF: THE NURTURE OF AN INDUSTRIAL PRODIGY[1]

SUMMARY

Early history of the industry in Europe, 589.— Growth in the United States since 1911; the American Viscose Company the leading producer, 590. — The technical processes, 592. — Steady improvement of rayon quality, 593.—Protection and its proximate results, 597.—Failures and successes, 600.— Advance in comparative effectiveness, 603.— Costs abroad and at home, 604.—Extraordinary profits, 608.—Domestic and foreign prices, 610.—Duopoly; international ramifications and combinations, 614.—Summary on tariff effects, 617.—The future, 619.

THE rayon industry is a striking case of the triumph of synthetic chemistry combined with modern engineering skill. The industry has succeeded in supplying the textile manufacturer with a material like raw silk, yet produced under conditions fundamentally different and such as make possible the manufacture of large quantities at a cost smaller than by the slow and laborious process of nature. Most interesting to the economist, we have a case where, in some respects at least, there seems to have been successful application of protection to young industries; yet also conditions of production on a huge scale, monopoly or "duopoly," international combinations and agreements. Here we meet the problems most characteristic of the trends in modern industry, the most baffling and most difficult of accurate analysis, the least easy to interpret in those terms of competitive industry on which economic reasoning has chiefly relied.

Established behind a barrier of protection, and quite possibly because of that barrier, the development of the

1. This paper gives the substance of a chapter to be published in the forthcoming enlarged edition, prepared jointly by the writers, of the senior author's volume, *Some Aspects of the Tariff Question.*

rayon industry has been nothing short of phenomenal. The production of rayon rose in the brief period of twenty years from a few thousand to 122 million pounds. Whereas in 1911 the acceptance of rayon (then called artificial silk) was dubious, and its uses few, by 1930 the synthetic fabric was securely established, not as a substitute for or an imitation of silk, but as a textile fibre with advantages of its own, innumerable uses, and a domestic consumption almost double that of silk.

The possibility of producing synthetic silk was conceived as early as the seventeenth century. All through the nineteenth, solutions of the problem were attempted by European men of science, but not until the later years of the century was a practical process evolved. In 1890 a factory for the manufacture of artificial silk was established at Besançon, France, under the supervision of Count Hilaire de Chardonnet. This ingenious scientist, convinced that the art of the silk worm could be duplicated by mechanical means, spent some years studying the habits and secretions of the silk worm. He was finally led to conclude that the process of manufacture should closely parallel the natural method; that is, convert cellulose, the chief substance of the framework of plants, to a soluble form, press it through a minute aperture, and fix the resulting filament into an insoluble form by contact with the air or some chemical. Since the silk worm feeds upon mulberry leaves, Chardonnet experimented with pulp obtained from the mulberry tree, producing in 1884 the first synthetic fibre. But it was not until a decade later that the principal problems of manufacture were solved and production began on a commercial scale.

By the outbreak of the Great War factories employing several different processes of manufacture were established in England, Germany, Switzerland, Belgium, and

Austria. Together these were producing annually about 22 million pounds of artificial silk, almost half being of British manufacture. The war checked expansion; raw material and labor were absorbed by war demands, and in a number of cases artificial silk factories were diverted to the manufacture of guncotton. During the post-war period the industry experienced tremendous growth, so that by 1929 European production amounted to 275 million pounds. Of this total, Italy, which had not begun successful commercial production until 1920,[2] produced 22 per cent, England following closely with 20 per cent, and Germany and France with 16 and 14 per cent respectively.

In the United States it was not until 1911 that successful commercial operation began, altho as early as 1897 attempts had been made to manufacture on a commercial scale the fibre that had been attained in the laboratory.[3] Notwithstanding heavy expenditure on equipment and experimentation, the early attempts at production ended in failure, only one succeeding so far as to produce for a short period (before becoming bankrupt in 1904) several hundred pounds per day.[4] In 1909 all the patent rights for the production of artificial silk by the viscose process passed into the hands of the American Viscose, owned almost entirely by Samuel Courtauld and Company, the largest British producer of artificial silk. A plant was set up at Marcus Hook, Pennsylvania, and in two years' time successful production on a large scale began.

2. Italian factories had been established twelve years earlier, but production had been negligible.

3. For an account of the early attempts to produce artificial silk in the United States see a series of articles by H. W. Ambruster in Volume II of *Rayon*.

4. The patents and other assets of the bankrupt corporation were purchased by a Philadelphia lawyer, Silas Petit, a large stockholder in previous ventures, a man who, according to Ambruster, had tenacious faith

For the next ten years the American Viscose remained virtually the sole producer in the United States. Efforts were made in the meantime by other interests to establish factories, but all, with the exception of two very small enterprises, ended in failure. The American Viscose was astoundingly successful. With an investment of less than a million dollars (exclusive of reinvested profits), it earned during the first decade of its existence over 100 million dollars. This achievement, together with the firm's inability to supply the rapidly increasing demand, in 1919 and 1920 attracted great attention, and during the few years following, scores of corporations were formed to manufacture artificial silk. The comparative ease of producing the filament in the laboratory led organizers and investors into believing that commercial production was a simple matter, easily set in motion once the equipment was installed. But the difficulties were underestimated; of the new enterprises only three reached the stage of commercial production. It is significant that these three producers were not only backed by much capital, but were also closely affiliated with European firms already experienced in producing artificial silk on a large scale.

After 1919 the industry grew at an amazing rate, and as early as 1920 the United States became the largest producer in the world. By 1929 the output, supplied by a score of manufacturers, more than doubled that of Italy, the next largest producer. The bulk of production was contributed by a half dozen concerns, all of which were or had been very closely associated with European

in the possibilities of the new fibre. He formed the Genasco Silk Works and expended large sums in an attempt to reach commercial production, but was unsuccessful. Upon his death in 1909 his estate disposed of all his patent rights to the English firm of Courtauld for the reported sum of $100,000, which was a small fraction of the sum spent on their development.

firms, if not owned outright by them. The American Viscose was by far the largest contributor, with an output of more than half the total.

There are four principal methods by which rayon is produced: the improved Chardonnet or nitro-cellulose process, the cupra-ammonium, the viscose, and the cellulose-acetate. All four are essentially similar. In each the purest obtainable form of cellulose (wood pulp or cotton) is treated by a chemical solvent to produce a viscous mass, which, forced through minute holes, coagulates into filaments either by passage through a fixing solution (as in the viscose and cupra-ammonium processes) or by evaporation (as in the Chardonnet and cellulose-acetate processes). The filaments thus formed are twisted together to form the yarn.

The viscose process is the one most widely used, as much as 85 per cent of the world supply of rayon in 1928 being produced by this method. Wood pulp from spruce and pine trees is used for the greater part of the output, cotton linters (short cotton fibres clinging to the seeds after ginning) for a small portion. The process of manufacture is divided into three stages: preparation of the solution, spinning, and finishing. The sheets of wood pulp are crushed and the crumbs are digested in alkali; and after the pulp is thoroly mercerized, carbon disulphide is added, converting the substance into a mass called "cellulose xanthate." This, dissolved in water, forms the viscose spinning solution. The solution is purified by filtration, is allowed to mature, and is then ready for spinning. The spinning process consists of pressing the viscose through the minute holes of the spinnerets into a fixing bath, from which the viscose emerges as a bundle of gelatinous filaments. These are immediately reeled, then rinsed and dried; the yarn is

unwound and skeined, the skeins being subjected to chemical treatment to remove adhering acids and salts; finally the skeins are washed and dried, and treated for finish and lustre.

The cupra-ammonium and nitro-cellulose processes differ from the viscose chiefly in the chemicals used to convert the cellulose into the viscous mass, and in the means used to coagulate the filaments. The cellulose-acetate process differs in the composition of the product as well as in the details of manufacture. The rayon produced by this method absorbs less moisture; it has unusual cross-dyeing properties and a very pleasant feel distinct from that of other rayons; being more elastic, it wrinkles less. On the other hand it is more readily injured by improper dry-cleaning or ironing. The nitro-cellulose process imparts a greater harshness, and is therefore better adapted for crisp fabrics; it is used to great advantage in the manufacture of sheer dress fabrics. Cupra-ammonium yarn most closely resembles silk in lustre and scroop, while viscose rayon has the greatest elasticity and excellent dyeing qualities.

The properties of the different rayons are subject to considerable variation, even within the same general process, according as the details of manufacture differ. Questions of temperature, pressure, time, purity and composition of the materials, efficiency of equipment, skill of handling, all affect the ultimate product. Two factories making cellulose-acetate rayon may create products which, tho essentially similar, differ with respect to lustre, tensile strength, elasticity, evenness of fibre, and so forth. Moreover, the properties vary as improvements are introduced into the details of manufacture.

The rayons of 1930 are very different from those first developed. The coöperative nature of technical progress

once again demonstrated itself. Improvements originating now in one country, now in another, followed in rapid succession. English, French, German, Swiss, and American chemists and engineers contributed to the refinement of the fibre as they had to its early development. Formerly a brittle, inflammable, inelastic, coarse, and uneven filament, with a tinny lustre and uneven-dyeing qualities, rayon in 1930 was made as fine as cobweb or as heavy as horsehair. Its lustre was controllable. dull silvery tones or bright glistening sheens being possible; the tensile strength, both wet and dry, was increased; and the filaments became more even, softer. more pliable, and more elastic. In dyeing qualities and evenness of filament good rayon was even superior to silk; in feel, rustle (scroop), and warmth some brands of rayon were the peers of silk. In some other respects silk still had the advantage: its wearing qualities were better because of greater elasticity, particularly when wet, and it was less absorbent and lighter. Rayon, on the other hand, was less sensitive to the action of organic acids, and the smoothness of the filament rendered it less easily tarnished by dirt. On the whole, the inferiority of rayon as against silk was steadily diminishing before the ever-widening stream of technical improvements, promoted by elaborate research and extensive agreements providing for the exchange of patents and ideas. Much was being prophesied for rayon, and many men conversant with the technical aspects of the industry declared that before long rayon would be superior to silk in every respect. Already there was being placed on the market rayon yarn, made by a new process, with a tensile strength greater than that of silk, whether wet or dry. With regard to price, rayon had a distinct advantage. The differential varied from one to five dollars per

pound,[5] the smallest difference occurring in 1930, when, owing to world-wide depression, raw silk fell to the phenomenally low price of two dollars. That silk will remain at that low level is very doubtful, while there is every expectation that rayon will continue to decline in price.

As the quality of rayon improved, knowledge of handling the new material increased, and the price declined, its uses became wider. At first adapted only for trimmings, braids, and other items where brittleness, lack of tensile strength, and poor dyeing qualities were of little consequence, it came to be utilized in a great variety of commodities: cloths of every description from the sheerest fabric to heavy upholstery; hosiery, underwear, sweaters, and other knitted fabrics; laces, ribbons, lamp-shades, slippers, and a host of minor articles. Rayon was extending into almost every field formerly commanded by the other textile fibres, as well as developing industrial uses of its own. The hosiery industry was the chief customer until 1921; after that date the greatest amount was used in the manufacture of underwear, which consumed in 1929 as much as one-third of the rayon output. The cotton-goods industry also absorbed more and more rayon, the new fibre adding considerably to the attractiveness of cotton fabrics without greatly increasing the price. In 1929 21 per cent of the rayon consumed appeared in cotton fabrics.

5. The difference in price per pound does not exactly measure the price advantage. The density of rayon is greater than that of silk, and a pound of silk has 20–30 per cent more covering power than a pound of rayon. On the other hand, the greater covering power of silk is largely offset by the inclusion in the price of silk of the gum which adheres to the silk in its natural state and which has to be removed before conversion into fabric.

Dr. C. H. Herty, past president of the American Chemical Society, in a research report to the Engineers' Foundation (March 1, 1929, p. 32) stated: "A new artificial silk has been produced that is stronger than natural silk. I do not hesitate to predict that natural silk is doomed."

Even silk was used to a large extent in combination with rayon.[6]

The conversion of rayon into rayon cloth or rayon mixture presents no problems differing significantly from those of silk. The excessive care that was at first necessary in the winding, warping, and weaving is no longer needed. The new fibre, while somewhat more easily broken by friction or by additional strain, demands merely that machinery used in the conversion of the yarn be more carefully adjusted, vibration reduced, and all surfaces made smoother. The first machinery used in the manufacture of rayon goods was, in fact, the same as that for silk goods. Later special machinery came into use, more rigidly constructed and capable of delicate control of tension. The processes of dyeing and finishing, tho differing from those of silk, likewise presented no more difficult problems, while the skill of the operators in the handling of rayon is in many mills on a par with that of silk workers.

One point is important for the position of the American industry, and bears on the possibilities of the future. If the tensile strength of rayon be increased beyond that of silk, the American mills may become as efficient in the production of rayon goods as they are in the manufacture of cotton goods. The continuity of the filaments and the evenness of their quality (a feature not wholly

6. CONSUMPTION OF RAYON BY INDUSTRIES (*Percentage*)

	1913	1921	1929
Hosiery	40%	23%	19%
Knit Goods	5	29	4
Silk Goods	10	12	13
Cotton Goods	12	9	21
Underwear	..	2	32
Braids	5	10	5
Upholstery	5	2	..
Plush	15	1	..
Wool Goods	3	1	..
Miscellaneous	5	11	4

attained in 1930) would, when combined with increased tensile strength, render rayon more adaptable to machine manipulation than silk. In such case the American mills manufacturing rayon fabrics might be expected to be less dependent upon tariff support than manufacturers of silk goods.

The rayon industry in the United States from the very beginning received protection. Tho the tariff acts before 1909 contained no separate classification for artificial silk (as it was then still called), imports were taxed 30 per cent and more, first as goods of which "collodion or any compound of pyroxylin formed the component of chief value", later as silk yarn (because of its resemblance to that fibre), and finally as cotton yarn (because of some similarity in chemical composition).[7] In the act of 1909 a separate classification was made, and specific rates were imposed of 45 to 60 cents per pound, with a minimum *ad valorem* clause of 30 per cent. The *ad valorem* equivalent of the duty paid under this act averaged 38 per cent. In 1913 the specific duties were replaced by an *ad valorem* rate of 35 per cent; nine years later the former specific rates ($.45 per pound) — with an *ad valorem* minimum clause — returned. The *ad valorem* minimum was set at 45 instead of at 30 per cent, and this minimum rate of 45 per cent *ad valorem* was the effective rate from 1922 to 1926; the specific tax would have been equivalent to no more than 25 to 35 per cent. After 1926 the decline in the price of rayon yarn caused the specific rates, now equivalent to 50 to 55 per cent *ad valorem*, to be applied instead of the minimum *ad valorem* rate of 45 per cent. The basis of assessment was

7. See the report on artificial silk prepared for the Tariff Commission in 1925 by Ruth E. K. Peterson and others of the textile division of the Commission's staff. This report and *The Rayon Industry* by M. H. Avram have been much used in the preparation of the present study.

again reversed in the act of 1930, an *ad valorem* rate of 45 to 50 per cent — a slight increase — being imposed, with a minimum duty of 40 to 45 cents per pound. Thus in the thirty years of imports the rates of duty on rayon varied from 30 to 55 per cent; during the important years — those after 1922 — the protection afforded domestic producers was 45 per cent and more.

As already stated, the amount of rayon produced in the United States before 1910 was negligible. The duties in effect were merely revenue duties. With the growth of the domestic industry the duty became protective. Notwithstanding the rapid increase of domestic production, however, the demand for rayon was so great that imports increased; yet as early as 1915 the imports constituted only two-fifths of the total consumption. During the war imports virtually ceased. From 1919 to 1924, while the domestic consumption increased to 40 millions, imports fluctuated between 1 and 3 million pounds. In 1925 they rose to 5 millions, domestic production to 52. The next two years witnessed large increases in both imports and domestic production, so that by 1927, tho the domestic output had passed 75 millions, imports increased to 16 millions, supplying 17 per cent of the rayon consumed in the United States.[8]

8. RAYON
(*millions of pounds*)

Year	Production in U. S.	Imports	Consumption in U. S.	Total World Production	Price in U. S.*
1911.....	.3	1.8	2.1	17.	$1.90
1912.....	1.1	1.5	2.6	18.	1.85
1913.....	1.5	2.3	3.8	22.	1.85
1914.....	2.0	2.9	4.9	24.	1.90
1915.....	4.3	2.7	7.1	27.	2.13
1916.....	5.8	.8	6.7	31.	3.11
1917.....	6.6	.5	7.2	33.	3.86
1918.....	5.8	.1	5.9	34.	4.40
1919.....	8.0	1.1	9.2	36.	4.77
1920.....	9.8	1.8	11.7	41.	4.66

*Grade A 150 Denier, New York.

The increase in imports was, nevertheless, no indication that the competitive strength of domestic rayon producers had declined. The ever-expanding demand simply could not be met at home. Increase in the output of rayon does not come easily or quickly. New operating units require a year or more after completion before anything approaching capacity production can be reached. Furthermore, the difficulties involved in manufacture on a large scale are so great that even when companies with long experience build additional plant, the approach to maximum capacity is very slow. Hence, even with the phenomenal growth of the industry, production lagged behind a demand which was steadily and successfully stimulated by wide publicity. Extensive advertising, launched to inform the public of the merits and possibilities of rayon cloths, served to dispel the idea that rayon was a cheap imitation, without merits comparable to those of real silk. The adoption (in the United States) in 1924 of the term "rayon" helped in no small measure to remove the stigma of imitation. From that time on, consumption grew apace; in 1927 underwear alone consumed 14 million pounds of rayon more than in the preceding year; hosiery and cotton goods each consumed 6 million pounds more. Domestic

RAYON (*Continued*)
(*millions of pounds*)

Year	Production in U. S.	Imports	Consumption in U. S.	Total World Production	Price in U. S.*
1921	11.6	3.6	18.2	48.	2.67
1922	24.4	2.0	26.5	81.	2.80
1923	36.1	3.9	38.4	109.	2.80
1924	39.0	1.7	40.8	141.	2.11
1925	51.0	7.0	58.7	183.	2.00
1926	63.0	10.0	66.7	219.	1.81
1927	75.0	16.2	101.0	267.	1.50
1928	97.0	12.7	110.0	344.	1.50
1929	122.0	15.9	135.0	406.	1.24

* Grade A 150 Denier, New York.

production, notwithstanding constant expansion, could not satisfy such large increases in demand.

We turn now to the part played by the tariff in the development of this extraordinary industry. The significant questions are: To what extent was its growth in the United States dependent upon protection? Had there been no duty on rayon, would the industry have been established at all in the United States? Once established could it have thrived without tariff support? Finally, was the industry better fitted to compete on equal terms with foreign producers in 1930 than in 1910?

It seems almost indisputable that the tariff was responsible for the establishment of the industry in the United States. The influence of protection did not, however, manifest itself in the usual manner. Instead of affording Americans an opportunity of establishing an industry with American capital and American methods, it served as an inducement for the transplanting of a foreign industry with foreign capital and foreign management. Virtually every attempt made before 1923 by American manufacturers to produce artificial silk commercially ended in failure;[9] and even in the next six years the number of successful American producers was very small. By 1929, among the eleven important manufacturers, whose output amounted to 97 per cent of the domestic total, only three, and these among the smallest (producing only 7 per cent of the output) had developed without the aid of European control or operation. Even these obtained their technical and engineering staff

9. One exception was The Lustron Company of Boston, Massachusetts, which for many years produced small quantities of acetate rayons. Its annual production never reached more than a few hundred thousand pounds, and the company was not very successful. In 1927 it discontinued production. There were a few other exceptions, of even less importance.

and much of their machinery abroad. Five of the eleven, producing almost two-thirds of the output, were (in 1930) either owned or controlled by foreign rayon companies. Two others, producing about one-tenth, originally controlled by European firms, had been taken over after several years of successful operation largely by American interests. One concern, producing one-fifth of the total output, tho financed wholly by American capital, was closely affiliated with one of the large European producers, who until 1929 owned some of the stock and supplied technical men, patents, and guidance. With a few unimportant exceptions, therefore, the industry was European in origin and direction.

The small percentage of American manufacturers in the rayon industry was not due to the failure of American capital to appreciate the possibilities of the new industry. On the contrary, hundreds of corporations were formed; but few reached the stage of commercial production, and fewer still survived. The fact was that the industry, with its exacting requirements, offered insuperable obstacles to the inexperienced producer; whereas the European manufacturer, armed with expert knowledge of the technique of production, with trade secrets, patents, and long years of experience in commercial manufacture, found it relatively easy to establish a successful plant. But in the absence of a duty there would have been little incentive for European producers to attempt the manufacture of rayon in the United States. The long establishment of the industry in Europe had developed a corps of technical and quasi-technical workers skilled in the handling of a material which requires careful watching and accurate manipulation at every step of the process. Manufacture in the United States meant the importation of a large technical staff and a skeleton organization capable of training a

new labor supply — an expensive and troublesome undertaking. It meant, too, the importation of most of the necessary equipment (subject to the additional expense of a 35 per cent duty). Moreover, the level of wages being higher in the United States, the establishment of a plant here would necessarily increase the cost of the product for at least a number of years; nor was raw material any cheaper in this country. In every way — transportation costs being a very small item in view of the high value of the product and the ease of shipment — it was less costly to expand rayon production abroad than to found a plant across the Atlantic.

Under such conditions only a high duty could have induced a European producer to manufacture in the United States. And even with the support of the duty, only a concern having abundant financial backing and a trained technical staff available for foreign service could have hoped to succeed. Courtauld and Company of England was the only European organization having these qualifications that ventured an American enterprise. A large textile firm of long standing, they had been interested in the production of artificial silk by the viscose process as early as 1900. In 1904 they purchased patent rights to production in England, and in 1905 began to manufacture on a commercial scale. By the time they began producing in the United States (1910) they had already had four years of successful commercial production; yet several years elapsed before the new plant functioned smoothly and the quality of the product could be maintained at a high standard.

For the next ten years the American Viscose (the Courtauld concern) had substantially no competition, except from imports, tho the demand for its product increased five-fold and its profits were phenomenal. In 1920 the extremely high price of rayon and the inability

of the American Viscose to meet the increasing demand attracted much attention, and scores of companies were formed; but only three succeeded in reaching commercial production, and all these were controlled by, or closely affiliated with, European concerns.[1] Even as late as 1929 these three firms, together with the American Viscose, accounted for 80 per cent of the total output. The rayon industry in the United States was not merely encouraged by the duty, but was actually brought into being by it.

The industry once firmly established, how far did it become independent of tariff support? To what extent were the obstacles which beset the early domestic producer reduced? This is the crucial question as regards success in the application of protection to a young industry.

By 1929 the lack of domestic labor skilled in the handling of rayon had ceased to be a problem. There was a large and constantly growing supply of technical men, engineers, and chemists with adequate experience in rayon production. Textile schools and universities offered instruction in the various processes, and yearly sent out more and more trained men. An organization had been developed for training such additional semi-skilled labor as the growing industry required. It is true that domestic producers were frequently forced to turn to Europe for exceptional men in the field, but the expense of securing such aid was a minor factor in the production costs. Moreover, the fact that many of the best European rayon engineers had come to the United

1. Du Pont Fiber Silk Co. (later Du Pont Rayon), a combination of E. I. Du Pont de Nemours & Co. and the Comptoir des Textiles Artificiels of France; Tubize Artificial Silk Co., associated with the Fabrique de Soie Artificielle de Tubize of Belgium; and the Industrial Rayon Co., successor to the Industrial Fibre Corporation of America, which was a merger of the American Borvisk Co. with the Snia Viscosa of Italy. The Acme Rayon Corporation, organized in 1920, did not begin to produce on a commercial scale until four years later.

States provided a nucleus for an ever increasing body of technicians with adequate training. On the whole, the American labor force by 1929 was as competent as that of any country in Europe.

In the matter of machinery, too, the American industry was no longer dependent upon Europe. A number of American firms were specializing in the manufacture of equipment for the preparation of the viscous fluid, the spinning of the filament, and the washing, drying, and dyeing of the yarn. Some machines were still imported, chiefly from Germany, but the quantity supplied by domestic sources represented a constantly increasing proportion.[2] Virtually all the important producers in the United States had agreements with one or another of the large European firms providing for an interchange of all patents and ideas. Thus on the score of equipment and methods of production American manufacturers were on a par with the foreign.

An analysis of the elements entering into the money cost of production gives no clear indication that the American producer was at any significant financial disadvantage. To begin with the raw materials. By 1930, on the whole they were as cheap as or cheaper than in any one of the competing European countries. Among the principal materials,[3]— cotton linters, wood pulp,

2. The largest part of the machinery for the addition to the American Glanzstoff Corporation in Tennessee (1930), described as "the world's most modern and up to date rayon plant," was designed and constructed in the United States. — *Rayon*, October, 1930.

3. ESTIMATED UNITED STATES CONSUMPTION OF PRINCIPAL RAW MATERIALS OF RAYON MANUFACTURE IN 1929

	Short Tons (thousands)		*Short Tons (thousands)*
Sulphuric Acid	145	Nitric Acid (100%)	2.7
Caustic Soda	105	Ether	4.3
Sulphite Wood Pulp	63	Acetone	5.6
Cotton Linters	33	Acetic Acid (50%)	11.0
Carbon Disulphide	33	Acetic Anhydride (92%)	11.0

The figures are taken from *Chemical and Metallurgical Engineering*, January, 1930, p. 49.

sulphuric acid, caustic soda, carbon disulphid, nitric acid, ether, acetone, acetic acid, and acetic anhydride,—cotton linters were perhaps a little cheaper in the United States than in Europe, owing to the fact that American cotton yields a higher percentage of cellulose than Eastern and Egyptian cottons; a difference in price to American manufacturers would arise from the slight saving in transportation costs. Wood pulp also was no higher in price than in the chief competing European countries. Formerly imported from Sweden, the best wood pulp for the manufacture of rayon was now obtained from Canada; it was imported free of duty in the form of purified compressed pulp sheets, and the transportation costs were slight, constituting a very unimportant portion of the cost of pulp even to those mills not situated near tidewater. Of the chemicals, acetic acid and acetic anhydride were probably a little higher in the United States;[4] these, however, were used only in the acetate process, employed for a mere 8 per cent of the rayon output. Caustic soda and acetone were exported in large quantities, showing their cost to be no higher at home.[5] Ethyl ether was not imported, notwithstanding a very low duty (2–7 per cent *ad valorem*).

As regards cost of equipment, the American producer may have been at some slight disadvantage. Some of the machinery was imported and paid a duty of 30 per cent; other machinery, tho of American manufacture, cost more than foreign machinery, yet not enough more to

4. About one-sixth of the acetic acid consumed in the United States was imported from Canada and was subject to a duty of $.02 a pound (equivalent to 16–18 per cent *ad valorem*). Acetic anhydride was also subject to a duty ($.05 per pound, equivalent to 20–30 per cent), and tho imports were negligible, and exports also, it is possible that the price was higher in the United States by an amount less than the duty.

5. These chemicals were subject to duties as follows (1922–30): caustic soda, $.005 per pound; acetone, 25 per cent; ethyl ether, $.04 per pound.

warrant importation over a 30 per cent duty. A great deal, on the other hand, was of the kind which America produced as cheaply as, or even more cheaply than, foreign countries; electric motors, pumps, crushers, belt systems, heating devices, humidifiers, driers, filter presses, dyeing apparatus, stills, and tanks were even exported, and the lower cost of these in some part counterbalanced the greater cost of imported machinery.

In the matter of wages the American producer was doubtless at a disadvantage. Tho no comparative figures of wages in foreign and domestic plants are available, the situation was the same as in industry at large; hourly wage rates were much lower in Europe. Particularly was this true as regards Italy, the chief source of American imports of rayon. The significant comparison, however, obviously is not between money wages per hour, but between wages expense per unit of product. Here again the situation can hardly have been different from that in industry at large: the difference between American and European wages expense was much less than that between wage rates per hour or per day. Some available figures for the rayon industry indicate that the output per worker in the United States was from two to three times greater than in European countries. According to the census of 1927 the annual output per worker in the United States was about 3,000 pounds;[6] in Italy it was 1,200@1,400 pounds — less than half the American output.[7] Figures for earlier years show the

6. In 1929 in one of the most modern of the viscose plants in the United States the annual output was close to 4,000 pounds per worker, showing the rapid progress in reducing the ratio of direct labor costs to total costs. Further evidence of this progress is supplied by census figures of the increase in horse power compared to the increase in workers. In the two years from 1925 to 1927 the number of workers increased 38 per cent while the horse power increased 83 per cent.

7. In the League of Nations Document, *The Artificial Silk Industry* (Geneva, 1927), p. 19, the number of workers in the silk industry in

output per worker in Germany to have been 1,600 pounds (1925) and in Holland 1,100 pounds (1923), while in the United States it was 2,600 pounds (1925). It is true that these figures are only rough approximations, as the output per worker is affected by the kind of product as well as by size, number of filaments, quality, and hours of labor. But such differences do not seriously affect the comparison, since rayon by the viscose process accounted after all for more than four-fifths of the output in each country, 150 Denier was by far the most important single size,[8] the American working day was no longer, and the American product, in the main, equal to any and better than many. On the whole the domestic effectiveness — so far as direct labor goes — seems to have been double that in Europe.[9] No data are available on "indirect" elements (plants, merchandizing, and so forth), but the probabilities are that in these the American industry had the same advantage in effectiveness.

Italy was put at 30,000. Italian production in 1927 was 36 million pounds, making the output per worker about 1,200 pounds. In the same document it was stated that in Italy it took one worker to produce 4.4 pounds per day. At that rate the Italian output per worker would have been about half the American.

8. Until recently Germany and France produced a somewhat larger proportion of the finer yarns and therefore required more labor per pound than did the United States.

9. According to an estimate by a competent rayon engineer, the wages expense (1928) of producing viscose rayon of 150 Denier in a domestic plant, with an annual output of 2 million pounds, was $.38 per pound. (See *The Rayon Industry*, p. 518.) This estimate is almost identical with the cruder estimate based on the census report of 1927. In a plant of 10 million pounds output — most of the plants were of this capacity — the wages expense was less. Avram estimated that the "labor cost" in a plant producing annually 12 million pounds of 150 Denier was $.31 per pound. (His figures for costs are quoted in considerable detail in *Supplementary Brief of Rayon Yarn Importers* submitted to the Senate Finance Committee, August 12, 1929.) Tho the total wages expense was (1930) only about $.30 a pound, a duty of $.40–$.45 a pound was imposed (1930) "to enable the domestic producer *to compete on equal terms* with manufacturers in low wage countries."

Clearly an accurate estimate of the extent to which domestic producers were dependent upon tariff support cannot be ventured on the basis of the data concerning the effectiveness of labor and the money outlays for wages and machinery in the United States and abroad. But there are other data which give indications of the position of the domestic industry. In the following table appear the figures for the selling price and the profits per pound of rayon during certain years. It will be seen that the net profits, after deducting all items of expense, including depreciation and taxes (but not return on capital) ranged from three dollars per pound during the war years to 58 cents per pound in 1928.

PROFITS OF THE AMERICAN VISCOSE[1]

Year	Average Price of Rayon (*)	Profits per Pound (†)
1917	$3.86	
1918	4.40	$3.00 (avg. 1917–19)
1919	4.77	
1921	2.67	
1922	2.80	
1923	2.80	.90 (avg. 1921–25)
1924	2.11	
1925	2.00	
1926	1.80	.74
1927	1.50	.70
1928	1.50	.58

* Grade A 150 Denier.
† Annual net profits after deduction made for depreciation and all taxes. Total net profits divided by the quantity produced.

For the last three years for which figures are available the percentage of net profits averaged about 70 per cent of the money cost.

This figure does not, however, include any return on the capital invested. Figures of the value of plant and equipment of the American Viscose are not available,[2]

1. Figures of annual net earnings appear in the *Congressional Record*, Senate, January 8, 1930, pp. 1238, 1244.

2. The amount originally invested was reported to have been $800,000 but plant expansion was financed largely from profits.

but the approximate investment can be gauged from the capital expenditure on a similar plant erected in 1929.[3] The sum there was about one dollar capital investment for each pound of rayon annually produced. Allowance should, of course, be made for an adequate return on this capital, with regard not only to depreciation proper but also to risk and obsolescence. These in a chemical industry are important items, especially when the industry is new. Yet with all allowance, the evidence of the profits of the American Viscose indicates that earnings were brilliant — much more than can be thought necessary, by the widest stretch of business imagination, to attract and keep capital in the industry.

The profits recorded above, while those of one producer only, represent over half the total output. Other evidence runs the same way. The Celanese Corporation,[4] the fourth largest producer in 1928–29, earned $.46 per pound in 1928 and $.48 in 1929 (also exclusive of return estimated due on capital invested in plant and equipment). While figures of net earnings are not published for the second largest producer, the Du Pont Rayon Company, there is little reason to suppose that its costs were higher than those of smaller producers

3. The plant and equipment of the Industrial Rayon Company, built in 1929, with a capacity of 5.5 million pounds, cost about 4.25 million dollars. The older plant and equipment with a capacity of 4.5 million pounds was, according to an appraisal based on reproduction value (1928) carried in the assets at 4.1 million dollars without deduction for depreciation. On that basis the capital investment per pound of rayon was $.90. Avram, a rayon engineer of long experience, estimated that the investment required to build and equip a plant with a capacity of 2 million pounds was $2,500,000.

The value of patents owned is not included in this estimate. Including them would, it seems, be open to the criticism of reasoning in a circle. Their value is price determined, and therefore should not be included as an expense of production when an attempt is being made to measure the dependence of the industry upon tariff support.

4. This firm produces a higher priced yarn, and its percentage of profit is smaller.

or lower than those of the larger. The net earnings of the Industrial Rayon Corporation were in 1928 $.40 per pound. The American Bemberg Corporation operated at a loss during its first year (1927), as was expected, and earned only $.28 per pound during 1928. The Skenandoa Corporation, which produced only 2 per cent of the quantity turned out by the largest producer, earned $.19 per pound. The Delaware Rayon Company, an equally small producer, earned at least $.18 per pound during its first year of large operation. The American Glanzstoff Corporation, which had begun operation in 1928, had not yet in 1930 reached capacity and profitable production. All in all that part of the rayon output of 1929 which was manufactured at a profit under $.40 per pound amounted in all probably to less than 10 per cent of the total.

The evidence on profits, then, strongly suggests that for the bulk of the domestic output the selling price was greater than all the expenses of production by an amount not less than the duty. Even after allowing handsomely for a reasonable return on the capital invested, for launching expenses, management of the highest grade, depreciation and obsolescence — everything that should be counted — the figures seem to indicate that the greater part of the industry was almost independent, probably completely independent, of tariff support.

Further evidence on this point might be expected from a comparison of the foreign and the domestic selling prices. But here another element enters. Evidence of this sort can be used as a gauge of the relative position of domestic and foreign producers only under "normal" or competitive conditions. In the rayon industry, however, these conditions have not been present. Neither at home nor abroad was there during most of the period active price competition. The conditions

were those of monopoly or "duopoly", further complicated by the phenomena of a new industry rapidly changing. Prices under such conditions give very dubious evidence on expenses of production, or on the extent to which the protected industry is approaching maturity — *i. e.*, independence of tariff support.

The price differences do give evidence on the extent of the burden imposed by the duty. But for the duty, prices in the United States could not have been kept persistently at a higher level than in other countries. Only a world-wide monopoly or tight agreement could have so maintained them, and this was not the case, at least prior to 1927. The domestic price of rayon for more than half of the years from 1910 to 1930 was higher than the foreign price by the full amount of the duty. For the early years this is indicated by the importation over the tariff barrier of a very large proportion of the total consumed in the United States. Indeed, under the extraordinary conditions of these early years, the domestic price of rayon of the same grade as that produced by the parent company in England (then the chief exporter to the United States) was above the foreign price by an amount *greater* than the duty. During the war and immediate post-war years, in fact, everything was "abnormal"; domestic prices bore little relation to foreign prices. The period was so confused as to render price comparisons of little significance. Not until 1922 did something like settled price conditions appear. After that year the prices of rayon yarn in the United States were higher than in Europe. How much higher, is hard to determine because of the possible differences in the qualities of yarn of similar "grade." In Italy, the leading exporter to the United States after 1924, the price during most of the post-war years was less than in the United States by an amount greater

than the duty. But it is questionable whether the quality of Italian rayon was the same as that of a comparable classification in the United States;[5] the preference of textile manufacturers for domestic rayon, even when the foreign rayon was cheaper, seems to bear out this supposition.[6]

The burden on the domestic consumer imposed by the duty cannot therefore be measured, but burden there unquestionably was. The duty certainly acted to keep the domestic price at a level substantially higher than would have been possible without a duty. In consideration of the fact that during the years from 1922 to 1930 alone the consumption of rayon in the United States totaled about 700 million pounds, and the duty averaged $.50 per pound, the *possible* burden on the consumer may have assumed no inconsiderable proportions. Some of the burden — 30 millions of dollars — went to the government in the form of duty on the imported yarn, but the remainder went to increase the profits of a few large manufacturers whose costs of production were in all

5. The rayon that was imported from Italy, tho of similar classification as to grade, was unquestionably of inferior quality, and sold in the United States for a price below that of domestic Grade A quality.

6. The earlier imports of rayon acquired a reputation of unreliability in the matter of evenness of quality. The lack of uniformity proved, particularly in the United States, where piece dyeing rather than skein dyeing was the more common practice, a source of trouble and cost to weavers and finishers; so that they preferred to pay more for domestic brands rather than risk delays and expense. Moreover, the domestic requirements as to length of skein and methods of reeling received no consideration from foreign producers. Notwithstanding improvement in these matters, the prejudice against most foreign brands persisted.

Prices in the United States were higher than prices in Great Britain by a sum varying from one- to two-thirds the amount of the duty, but the fact that domestic prices were higher than the British by an amount *less* than the duty does not necessarily indicate what the domestic price would have been in the absence of a duty. Prices in Great Britain may not have been competitively determined. One manufacturer produced 85 per cent of the British output of viscose yarn, and there was a duty of $.48 a pound (applied in 1925).

probability almost low enough to permit successful operation unaided by the tariff. That the bulk of these profits went to investors and patent owners resident in foreign countries rather than (as in the case of other protected industries) to Americans, was a matter of utmost concern to many congressmen during the tariff debate of 1930, but to the consumer the residence of the receiver of a tribute is a matter of minor interest.[7]

Whether with undiminished duty the price of rayon will in the future continue to be higher in the United States than abroad will depend upon two factors: first, the rapidity with which the domestic supply can be increased, and secondly, the degree of competition within the industry. Before 1929 the demand for rayon had been increasing at so rapid a rate that the domestic supply was able to satisfy it only at a price considerably above the expenses of production of the large concerns. For the future the indications are that the domestic supply will not lag behind the demand; even by 1930 there was considerable excess plant capacity. Since the ease of expansion increases with the size and age of the industry, domestic productive capacity may be expected to keep pace with the growing domestic demand.

With domestic productive capacity large enough to satisfy the domestic demand at prices yielding a "normal" profit, the price will be determined, assuming competitive conditions to be maintained, by the expenses of production of the half dozen or so large manufacturers. These produce more than 90 per cent of the total, and the costs of the smaller concerns have very little effect on the price. Tho the costs of the larger

7. The American Viscose earned 196 million dollars from 1921 to 1928 (statement from the Bureau of Internal Revenue cited in *Congressional Record*, Senate, January 8, 1930, p. 1244). Part of this sum, of course, was returned to the American body politic in the form of income taxes.

producers vary, these differences, natural in an industry growing and changing so fast, would not prevent a rough correspondence between price and representative cost. Moreover, as the newer plants gain in size and experience, and the industry settles down, the differences in cost may be expected to decrease. The price will tend toward the expenses of production of the few very large producers; and these expenses, as we have seen, would be in all probability less than the price by the full amount of the duty. Under competition the duty will rapidly approach ineffectiveness.

If, however, competition proves to be restricted, either through tacit understanding among the few large producers or through readiness to follow the lead of the one dominant manufacturer, the duty may cause an increased price to the consumer. In such case the burden, in view of the very large consumption and the height of the duty, may attain an imposing figure. There is every expectation of the annual consumption reaching 300 million pounds before many years. With a duty of $.45 per pound, the temptation to "eliminate cut-throat competition" or to "stabilize the industry" (terms which in substance mean more or less successful price fixing) is great.

The conditions easily lend themselves to maintenance of a price above the competitive level. The rayon industry, to repeat, presents a very pretty case of duopoly. Two concerns manufacture over two-thirds of the domestic supply, and a bare half dozen account for 90 per cent (1929). Many elements strengthen the duopoly. The two leaders have almost unlimited financial resources, and through the purchase of patents, the extension of production by other processes, the acquisition of stock in other companies, and the expenditure of very large sums on research and advertising, are constantly increasing

their dominance. Their position is rendered the more secure by the fact that for a long time it will be increasingly difficult for new producers to enter the field. The importance of perfect standardization plays into their hands. For weaving and knitting the manufacturers of textiles are intent on securing yarn that will not cause interruptions in the operations or flaws in the finished goods. Warpers, winders, and looms are delicately adjusted, in order to function with the maximum speed, the least attention, the minimum of flaws. A price of yarn lower by ten or fifteen cents means little as compared with homogeneity. A new manufacturer of rayon would have much difficulty not only in attaining the standard of uniform quality already achieved by the older companies, but also in introducing untried goods. "Potential competition", sometimes relied on as a check to monopoly, would be of doubtful effect, because rayon can be manufactured cheaply only when produced on a large scale and with a huge plant. It is true that there is a limit to the economies — or, more accurately, there is a point at which the losses through expansion offset the gains — but that point has not yet been reached. With increase in technical and business knowledge, the optimum size may be expected to increase far beyond the 65 million pounds which was the output of the American Viscose in 1929. Further, competition would be impeded by the fact that the improved processes of manufacture are covered under patents owned by the large producers.[8]

A circumstance making a quasi-monopoly price all the more easy is the close affiliation between the large American producers through the European concerns which control them. The American Viscose is controlled

8. One of the large producers alone took out 1,000 to 1,500 patents from 1921 to 1926.

by Courtaulds of England, who are affiliated through a sales agreement with the Vereinigte Glanzstoff; the latter directly controls the American Glanzstoff, and also, through its control of J. Bemberg of Germany, the American Bemberg Company; the American Enka Corporation is controlled by the Dutch Enka. In 1930 this last concern merged with the Glanzstoff,[9] thereby uniting the American Enka with the American subsidiaries of the Glanzstoff. Evidently the number of large domestic firms which could be expected to offer actual competition shrinks considerably.[1]

The European producers themselves are combined. The international rayon cartel is one of the most far-reaching. It includes corporations which through their

9. Through the formation of a holding company, the Algemeine Kunstside Unie.

1. The following paragraphs, which appeared in *Rayon* (June 30, 1926), suggest that before 1927, at least, the effective competition was furnished not by domestic, but by foreign producers. After that date it is not certain that either domestic or foreign competition was keen.

"As there is too wide a difference between our prices and rates quoted for European rayon yarns, we feel it necessary at this time to depart from the policy we adopted in April — to maintain present prices.

"The low wages that prevail in Europe, and the greatly depreciated foreign currency with which we have to attempt to compete, have compelled us to make drastic reductions in our prices, effective July 1, and we hope that our action will fully restore confidence in the rayon market." — S. A. Salvage, President of the American Viscose.

It is to be noted that all other rayon concerns followed suit.

The testimony of H. S. Rivitz, representing The Rayon Institute, before the Senate Committee on the Tariff also suggests that the real competition was supplied by the foreign producers. He said:

"The domestic producers could more or less maintain the legitimate profit. But it is the outsider that is the disturbing factor all the time and running prices down."

The stability in price prevailing in the United States, notwithstanding steadily declining costs, and the abruptness of large declines further suggest the likelihood of the existence of some degree of price agreements. For example, from September, 1921 to February, 1924 (three and a half years) the price of 150 Denier Grade A remained at $2.75 per pound, and in February, 1924 the price dropped to $2 per pound, where it remained until July, 1926 (almost two and a half years). Again, the price remained the same — $1.50 per pound — from March, 1927 to February, 19 J (two years).

ramified affiliations control over 85 per cent of the world output of rayon. In 1927 Courtaulds of England, Vereinigte Glanzstoff of Germany, and Snia Viscosa of Italy concluded an agreement practically eliminating competition between themselves in European markets.[2] In 1930 the group was joined by the powerful Dutch Enka. These four concerns control large subsidiaries in almost every country of the world, and are constantly increasing their holdings.[3] With the rayon industry of the world so consolidated, any reasoning or calculation based on the assumption of competitive conditions has little pertinence.

To sum up: the duty on rayon brought into the United States a new and important industry, one which would seem to illustrate the type justifying protection in this country during the early stages — an industry for which there are neither climatic nor geographic disadvantages; which is adapted to large-scale standardized production, with the use of much machinery and relatively little hand labor; in which at the start the difficulties are great, and the technique of production so difficult as to require an experimental period of many years before an adequate technical staff and labor force can be developed.

To the staunch protectionist the situation is clear enough. The mere "acquisition" of so large an industry is a clear gain. The product comes to be made mainly at

2. The agreement was subsequently strengthened through the purchase of Snia Viscosa stock by Courtaulds. It is even reported that Courtaulds and Vereinigte Glanzstoff control Snia Viscosa.

3. Some of the large American concerns which at first were owned by or affiliated with foreign rayon companies have in recent years become independent of such affiliations. The Industrial Rayon Company purchased the holdings of the Snia Viscosa in the Industrial Fibre Company. That portion of the Du Pont Rayon Company owned since 1920 by the French Comptoir des Textiles was in 1929 repurchased by the Du Pont de Nemours, while the Belgian interest in the American Tubize has greatly declined.

home, and is imported only in quantities small relatively to the domestic output. Home labor is employed, home materials are bought, and so on; it is all to the good. Whether the rayon is made and sold less cheap than abroad, or at about the same money rate, or at less, is not of essential importance. True, if cost and prices are lower than abroad, or as low, so much the better; but the mere fact of production at home spells success.

Those who look for tests of success not in this naïve way, but by inquiring whether more advantageous direction of the domestic factors of production has been brought about, have a much less simple problem. After twenty years of high protection against foreign competition, the rayon industry attained the leading world position. To justify the heavy burden of the duty during these twenty years, there must be clear promise of an eventual (not too distant) attainment of complete independence from tariff support. Nay, more. The industry must in the end be able to undersell the foreign product; it must reach the stage where it measures up to the full advantage in real labor costs possessed by the other industries that are independent of protection. It is not at all certain that by 1930 the rayon industry had attained this position of comparative advantage; the ordinary indications are not present. Yet in this case the ordinary indications are not conclusive. The absence of exports — which under competitive conditions would be a conclusive proof of ultimate success — could be explained by the complicating factors of an amazingly rapid expansion of demand under a world-wide duopoly of supply. Nor, for the same reasons, can international price differences and the persistence of large imports — which are usually the criteria of competitive weakness — be a gauge of lack of complete maturity. Yet, with all the qualifications, the phenomenal growth, and the gains

in technical and managerial efficiency greater than those abroad, show that during the twenty years great progress was made towards independence from tariff support; while the evidence from profits, even tho it cannot be ascertained with precision, strongly suggests that for a large part of the output, probably the greater part, the stage was attained where protection was no longer needed.

The rayon industry thus stands in a position not easy to judge with any assurance. Its future is even more difficult of assessment than its present. Its growth is necessarily subject to changes in taste and fashion; while on the other hand demand, output, and prices are subject to the same uncertainty regarding the working of competition which must be faced for all the great-scale industries.

Fashion may change. It is more than possible that it will become less favorable to the rayon makers. Their product has been for a long time insistently in demand not only because it was like silk in softness and lustre, but also because, like silk, it had something of the glamor of display and distinction. So long as rayon was still a rare material emulating silk in softness and sheen, the fabrics made from it catered to prestige and emulation. But as it comes to be made cheaply in larger and larger quantities, and sold to a wider circle, they must lose some of that charm. "Silk" stockings are no longer insignia of riches and station; they are worn by the maid as well as by the mistress. "Genuine" silk will perhaps hold its own in the social scale, if still scarce and dear — like "real" pearls. But rayon, even tho distinguishable from silk only by a practised eye, may lose something of its glamor, and may have to rely on the more enduring properties. On the other hand, those textiles which

rayon fabrics so long rivalled and in part displaced — the finer cottons, linens, woolens — may come into their own once more, at least to the point of being relatively less contemned, and more in demand for fashion, distinction, luxury.

Considerations of this kind point to the possibility that the increase of output in the next decade or two will not be as extraordinary as in the earlier period. While it is in the highest degree unlikely that there will be a cessation of growth, the growth will hardly be so swift. At the same time, standardization will be more complete; not only standardization of the fibre itself, but of the machinery and processes. However strong the position of those now in command of the industry, it may well happen in the course of time that new entrants will not find it so difficult to make their way into this profitable preserve. It is true that patents, secrecy in processes, trademarks, established prestige, will long bolster up the concerns that took the lead in successful development. But competition may become less impeded, and will be the more tempted if prices and profits are kept high. After another two decades, while total output continues to grow, a decline may come in the position held by the dominant concerns.

What course the set-up of the rayon manufacture will take in this next stage, would be hazardous to predict. The uncertainties are the same as in the other industries of similar character. What is the optimum size of the individual concern in a great-scale industry? Will there remain, after the turbulent growth of the nascent period has subsided, so small a number of concerns that continuous competition will still be out of the question? And if, on the other hand, competition of some sort persists, will it be continuously effective, or perhaps merely spasmodic and "potential?" Will competition

cease entirely, and be quite replaced by combination, more or less rigid? And will the combination be not merely domestic, but strengthened by international mergers? Here, as in almost every direction, wider questions enter than those bearing more particularly on protection and international trade; and they cannot be answered easily or in simple terms. All that can be laid down with tolerable certainty is that combination within a country is promoted by protection, and that on the other hand it is made somewhat more difficult when there are low duties, still more difficult when there are none. International combination, again, is promoted if in each country the monopolists or duopolists are enabled by protective duties to keep the domestic field each for himself, and if the process of dividing the markets is limited to those outlying regions preëmpted for no one of them. Even if the stage of definitive combination is reached, whether domestic or international, the case against protection for an industry so well established seems to be not weaker, but stronger.

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SOME ECONOMIC IMPLICATIONS OF UNEMPLOYMENT INSURANCE

SUMMARY

I. Recent proposals for unemployment insurance require special consideration, 622.—II. Systems established voluntarily by employers are practical only under certain conditions, 624.—III. Profits and surpluses not a suitable source of unemployment insurance funds, 626.—Nor employers' gains resulting from the lag of money wages, 629.—Doubtful whether unemployment insurance will pay for itself through increased productivity, 630.—IV. Compulsory contributions to unemployment funds tend to fall upon wage-earners, 633; and not likely to lead to reduction of unemployment, 634.—V. Direct government subsidies the proper method, 639.

I

FEW of those who are advocating unemployment insurance appear to have given thoro consideration to the conditions under which voluntary provision of such insurance is economically possible or to the probable ultimate effects of proposed compulsory systems. There are definite and narrow limits to that portion of modern industry which can of its own accord provide unemployment insurance for its employes. On the other hand, it appears almost certain that the compulsory requirement of such funds would have effects quite different from those it is desired to obtain.

It may reasonably be assumed that funds established by workers out of their wages to provide benefits in times of unemployment, to the extent that they are adequate and properly managed, will accomplish the purpose for which they are established. Similarly, government subsidies, whether administered directly as doles or contributed during periods of employment to joint funds to which workers or employers or both also contribute, will act to ameliorate the difficulties of

unemployed workers and to sustain consumers' demand in periods of economic distress. The only questions which can be asked regarding either of these arrangements are those of policy. Labor's contribution to such funds, for instance, may be objectionable because of its tendency to reduce worker mobility. Or governmental donations may be questioned for the same reasons as are ship subsidies, the major consideration being that of the extent of public interest in the activities thus supported. Such questions are clearly political rather than economic. If it is agreed that the state is sufficiently interested in easing the difficulties of the unemployed and maintaining some part of normal consumers' demand to justify supplementing the income of American workers with funds secured, to an increasing extent, by levies against the incomes of other American citizens, then this type of benefit is exactly the means to that end. It is simply an enforced modification of the distribution process, for which there is ample precedent in modern life.

Those recent suggestions of unemployment insurance which have received most attention, however, do not contemplate simply the accumulation of workers' savings or the supplementing of such funds by government donations. They are, in general, of two kinds. One of these proposes that industry be encouraged by public opinion voluntarily to establish private systems of unemployment insurance in the form of funds or reserves to be set aside as are reserves for depreciation, insurance, obsolescence or other purposes, and out of which benefits may be paid to employes who are enforcedly idle. These funds are not to be deducted from wages, nor are workers to be required to contribute to them. They are not to be increased by governmental subsidies. Their proponents insist that their cost is to

be borne either directly by the capitalists and controllers of industry or, if the latter are able to shift such costs, by the consumers of industry's products. Those who see such voluntary insurance plans as the desirable means of attacking our unemployment problems point to the score of firms now providing this type of protection with the assertion that what these progressive managements have done can be successfully imitated by the rank and file of employers.

The second proposal differs from the first in that it considers the establishment of these funds of such social significance as to justify the enactment of laws requiring practically all industries to provide them. The "American Plan for Unemployment Reserve Funds" recently submitted by the American Association for Labor Legislation as a basis for state legislation is a current expression of this second viewpoint.

II

The first suggestion — that unemployment insurance can be adequately provided by individual concerns acting upon their own initiative — offers little hope so far as an extensive amelioration of the evils of widespread unemployment is concerned. With no authority to require all employers to provide these funds, the concerns which do so must occupy unusual positions. There are excellent reasons why only a score of employers have provided such plans and why twenty per cent of those initiated have failed and been discontinued. For there are very limited sets of conditions under which individual concerns can set up and permanently maintain private unemployment reserve funds. They may do so only under certain conditions far from common, which may be described as follows:

(1) They may enjoy an effective monopoly in all or part of the production processes involved. In such cases, of course, competition enforces no rigid limits upon the payments for the factors of production, and unemployment reserves, or reserves for any other purposes which the controlling interests in the business may fancy, can be established out of the differential between the costs of production and value produced, the monopoly profit. Unemployment reserves in such cases represent the sacrificing of a certain portion of possible additions to the ordinary competitive rate of return on capital. It must be remembered, of course, that patents, trademarks, and established brands represent varying degrees of monopoly.

(2) Such voluntary funds are possible if the owners of a competitive business are willing, for purposes of publicity or humanitarian or other interests, to sacrifice some of the ordinary returns on capital which their investment earns for them.

(3) They are possible if the industry, tho competitive, either (*a*) holds the confidence of employees to such an extent that the latter willingly coöperate and approve the withdrawal of a portion of their wages to be placed in these funds, or (*b*) places management in a bargaining position so superior to that of employees that the latter can be forced to accept a wage cut equal to the deposits made in the fund. In either case, the same result might be as simply secured through the adoption of a monthly or yearly basis of payment for labor. In neither, it must be noted, is that major objective, the charging of the insurance costs to employers or to the consumers of the products of the involved industries, achieved.

Only under these conditions can private unemployment insurance plans be successfully established and

maintained. To the extent that existing systems have achieved success, they have been enabled to do so because the concerns involved illustrate one or another or a combination of these conditions. And it must be pointed out that only under the circumstances described in (1) and (2) can the advocates of private unemployment reserves reasonably expect a further development of such systems without charging the costs of insurance directly against wages. The number of industries meeting these requirements is, of course, so limited as to prevent any effective alleviation of the widespread unemployment conditions which have come to characterize our depression periods. While unemployment insurance provided by the industries which could do so under these circumstances would doubtless benefit the few workers whom it involved directly, the larger portion of laborers can look for no assistance from such plans.

III

This statement of limitations upon the ability of competitive industry to provide voluntary insurance may be questioned. Basic to it, of course, is the conviction that, in the case of industries which do not enjoy monopolies and whose owners are not anxious, as indicated above, to sacrifice a portion of their normal returns in order to provide unemployment benefits for their employees, payment for each of the production factors must tend to equal its productivity, and that failure to compensate any factor in an amount equal to its productivity would occasion the withdrawal of that factor. Thus in competitive industry no single factor, such as labor, could long be advantaged at the enforced expense of the others, for the latter would be

put to substitute uses where productivity would be adequately recompensed.

In current discussions of unemployment insurance these limitations upon competitive industry do not stand out clearly because of continual reference to two items, profits and surpluses. Altho neither of these actually changes the situation significantly, their inclusion in discussions leads to many misunderstandings.

It is often asserted, for instance, in answer to the statement that necessary payments to production factors cannot be so adjusted as to permit additional contributions to labor through unemployment insurance funds, that these contributions can be made out of profits, that labor is as much entitled to participate in profits as are either of the other factors.

This position, however, ignores the true nature of profits, which, because of their basic characteristics, could not possibly provide the funds for any widespread or permanent system of unemployment insurance. Profits, in the sense that they are differentials between the total costs of production and the values produced (and this is the only sense in which they could be considered by those who use this argument) could provide such funds only for certain industries at particular times. They could not be depended upon, as the sources of insurance funds must be. For there is an increasing body of evidence supporting the conclusion that, for competitive industry as a whole, profits in the long run tend to cancel out, being negative as frequently and in as great amount as they are positive. The long time tendency, in other words, is toward an equating of profits and losses. This is only another way of saying that value produced tends to equal, not to exceed, the total of value contributed by each of the factors. This conception, long held by many economists, has recently

received additional support in the conclusions of those who are using mathematical means to qualify or substantiate economic generalizations.[1] Profits, therefore, could not be expected to provide permanently or for industry as a whole the source for unemployment insurance funds.

It is, of course, possible for that section of industry which is at any given time profitable to use a portion of its profits for this purpose. But Sloan has indicated conclusively that there is no reason to expect any particular industries to remain profitable over an extensive period of time.[2] No satisfactory system of insurance could be based upon such an insecure foundation, depending upon the accident of profit to provide its funds. Such an arrangement would increase rather than decrease the element of chance in workers' incomes, a result which must be regarded as directly contrary to the purpose of unemployment insurance. Further, it is clear that coverage could not be broad, since it must be limited to those industries which, for any given period, are profitable.

The clear comprehension of limitations upon competitive industry is further obscured by the suggestion that, since many industries have been able to accumulate surpluses, either such funds might be used to provide unemployment benefits or others might be similarly accumulated for that specific purpose. This contention urges that if industries can build up surpluses by which dividend payments may be maintained when current income is insufficient for that purpose, they can as easily establish unemployment reserve funds to provide benefits to workers during enforced idleness.

1. See, for instance, Moore, H. L., Synthetic Economics, and Cassel, Gustav, A Theory of Social Economy, Ch. IV.
2. Sloan, Lawrence H., Corporation Profits.

W. I. King's estimate that American corporations have, during the last twenty years, saved 40 per cent of their profits is cited as evidence of this ability to set up reserves.

This misunderstanding arises from a failure to consider the manner in which surpluses are ordinarily accumulated. It may be admitted that, to some extent, they represent profits. In some concerns and industries, and over certain periods of time, as indicated above, profits appear in considerable amounts and with a frequency approaching regularity. But tho these profits, conserved in surpluses, might be used to provide unemployment benefits, they would have no advantages, for insurance purposes, over those not placed in surpluses; and the shortcomings of profits as a source of insurance funds have already been indicated.

On the other hand, that part of surplus which is not derived from profits, almost unquestionably the much larger portion, as indicated by King's study, is made up out of the earnings of capital, earnings which have not been distributed because shareholders or controlling interests among them desired to obtain such advantages as consistent and regular dividend payments or others to be derived from the accumulation of surpluses. These stockholders consider surpluses as increases in the value of their stock, regard them as much theirs as if they had been distributed among them. If anyone questions this fact, let it be decreed that amounts of corporation surpluses are to be made the basis for insurance levies which will distribute their funds among the unemployed and then watch surpluses fail to accumulate.

There is another contention of the proponents of private unemployment insurance by which much thinking on the subject is confused. It is insisted that to hold

to any rigid marginal productivity theory of wages is to ignore the actual nature of such payments; for, it is said, tho there is a tendency for wages to equal such productivity, it is modified because of the slowness with which wage scales change. There is a margin growing out of the lag in adjustment, a margin which now accrues to managements and which is sufficient to provide insurance funds.

In answer to this contention, it must be said that (1) prices paid for unskilled labor, at least, as indicated by the United States Steel Corporation's common labor market, show a response to changes in prices as prompt as does the average commodity; (2) this tendency to respond promptly is likely to be enhanced, and extended to skilled labor in increased degree, if and when a nation-wide system of employment exchanges adds to the mobility of labor; (3) the lag of wages behind prices is found to be as great in periods of falling prices as it is when they are rising, so that whatever gains may be made by employers in one phase are thus offset by losses in the other; and (4) there is no conclusive evidence of any significant long-time lag in wages. On the contrary, it has been indicated by Douglas that when, for a few years, the ratio of wages to value production is not maintained, that very condition, because it permits disproportionate returns to capital and thereby encourages speculation, becomes one of the major forces which later occasion a depression and readjustment period.

There is a further and quite different argument by which the advocates of unemployment insurance seek to escape the limitations upon its voluntary usage. The proponents of such insurance suggest that it is likely that the provision of these funds may so increase the productivity of workers as to pay for itself. It is contended that the improved morale and diminished uncer-

tainty as to income may reasonably be expected to cause workers to increase their productivity to such an extent that employers will gain an amount at least equal to the costs of the insurance.

This argument is a significant one. If it could be demonstrated that the provision of private unemployment insurance would automatically pay for itself by increasing worker productivity sufficiently for that purpose, then the foregoing analysis must be regarded as without point.

There is probably no conclusive proof either of the validity or invalidity of this contention, but there is a considerable body of evidence which seems to indicate that it is unsound. The Ladies' Garment Workers (New York) plan operated for three years, and more than two million dollars in benefits were dispensed in this period. Deering, Milliken and Company exhausted a $120,000 fund in their Garnerville plant and gave it up after three years' trial. The American Cast Iron Pipe Company set aside $15,000 in 1924 and the same amount in 1926, guaranteeing four days' work per week, and providing for benefits equal to half pay for days lost in excess of fifty per year. The plan was discontinued, according to the Monthly Labor Review, "because of changes in manufacturing which required plant reorganization."[3] The same statement reports that, "The plan of the Rockland Finishing Company became inoperative in 1923 because of lack of funds. . ." Altho the reasons for the failure of these plans have not been stated in detail, it seems reasonable to believe that, since they were established by employers who were willing voluntarily to assume greater than ordinary managerial responsibilities to employees, they must have

3. See Monthly Labor Review, xxxii (3) March, 1931, pp. 7–8 and Survey Graphic xv (1) April, 1929.

been given every chance to succeed, and that they would not have been discontinued, their funds exhausted, if they had been paying for themselves.

The question as to the likelihood that such systems will pay for themselves may profitably be approached from another angle — that which considers the amount of increased productivity which must be engendered by these systems in order to pay their expenses. No absolute figure can be given for the cost of a satisfactory system, because the concerns which have tried them are few in number and have had no extensive experience upon which to base calculations. The advocates of the compulsory Unemployment Reserves bill consider a levy of 1½% of wages as sufficient. On the contrary, however, the all too limited data available from the experience of voluntary systems indicate that this figure is too low. The Cloth, Hat and Cap workers, for instance, find a levy of 3% of the weekly wage necessary to provide a benefit of $13 per week for men and $9 per week for women, with a maximum benefit period of seven weeks. The Amalgamated Clothing Workers plan requires 4½% of wages to provide weekly benefits of 40% of the regular wage with a maximum of $20 per week and seven weeks' benefit per year. Under the Cleveland Ladies' Garment Workers insurance system instituted in 1921, each manufacturer sets aside 10% of his payroll to guarantee forty-one weeks' employment per year, and benefits for enforced idleness in excess of twelve weeks per year are calculated at 50% of the minimum wage scale.[4] Additional information of this nature is difficult to secure, because so many concerns have merely set aside funds to be so used without cal-

4. See G. S. Watkins, Labor Management, pp. 619–20 and Survey Graphic, xv (1) April, 1929, p. 58.

culating costs per year or relating them directly to wages.

From the inadequate data, however, it appears that levies of from three to ten per cent of the current payroll are necessary to provide unemployment benefits amounting to from thirty to fifty per cent of regular wages for periods not to exceed seven weeks per year. Does it seem reasonable that the promise of six to eight weeks' benefits amounting to one-third or one-half of ordinary wages, with definitely set maximum amounts, is likely to motivate an increase of from three to ten per cent in productivity, even when the plans are first initiated and enthusiasm heightened? And after such plans have become commonplace, a part of the expected routine, could their benefits be expected to maintain the necessary additional productivity? It may be noted, in this connection, that one of the cardinal principles discovered by students of personnel administration holds that any sort of incentive wage, if it is to be successful in increasing production, should provide fairly definite and not too distant values to be gained.

Such reasoning leads to the conclusion that the possibilities of voluntary unemployment insurance plans, to be instituted by individual concerns, are so limited as to preclude their being of great significance in solving the problems of any major unemployment crises.

IV

It is, therefore, with justification that most of those who propose unemployment reserves insist that they be required of practically all industries by law. If industry in general cannot be expected to establish these funds voluntarily, then there is but one other way to secure them. If competition prevents their voluntary provision, then a regulation which forces all competitors

to shoulder the same burden makes general participation possible at the same time that it makes it compulsory.

The general characteristics of such compulsory unemployment insurance as is most commonly suggested are well illustrated by the provisions of the Standard Bill for Unemployment Reserves now being advocated by the American Association for Labor Legislation. This bill, if enacted into law, would establish insurance reserves to provide protection for all employes in establishments hiring more than six workers, excepting (1) those engaged in agriculture and "employment not in the usual course of trade, business or occupation of the employer" and (2) persons "engaged at other than manual labor and at a rate of remuneration of fifteen hundred dollars per year, or over." It specifies that benefits shall not exceed ten dollars per week or 60% of the wage (whichever is lower) for adults, and shall be paid for not more than 13 weeks per year. The funds are to be maintained by contributions from employers amounting to 1½ per cent of the wages; and the bill expressly provides that employers' contributions must not be deducted from wages and that any agreement between employer and employee to evade this provision shall be void.

Several other proposals current at this time embody the same general features, altho most of them provide for direct contributions from workers as well as employers. This is true, for instance, of the bill introduced by Senator Graves in Wisconsin, and also of that sponsored by the Consumers' League of Ohio and presented to the legislature of that state.

The probable effects of such compulsory legislation appear to be quite different from those which its advocates promise. They expect that through this insurance

the poorer classes will be aided by having their normal earnings supplemented by the addition of unemployment benefits during periods of enforced idleness, that the imposition of insurance levies will cause managements to prevent a larger share of unemployment, and that the expense of providing insurance will be borne by employers and, perhaps to some extent, by those who use the products of industry. It is the contention of the proponents of such legislation that workers can in no sense be held responsible for unemployment, that the expense of that part of unemployment which is unpreventable is a legitimate cost of production and should be included in the price of the product, and that the costs of preventable unemployment should be assessed against the managements which permit it to occur. On the contrary, it is probable that the effects of a compulsory insurance system involve the charging of all its costs to the workers, thus actually lowering wages by the amount of the insurance levies, with no appreciable reduction in unemployment. Altho none of the proponents of compulsory measures desire such results, they are apparently inevitable.

This is true in spite of the fact that the advocates of compulsory insurance, recognizing the tendency outlined in the preceding section by which the costs of most private systems must be paid by workers, have expressly provided in the proposed law that employers' contributions to the fund shall not, under any circumstances, be deducted from wages. In those industries which are strongly organized this provision may be at least partially enforced. Under such conditions, the employer's forced contribution must be regarded by him as a premium to be paid for each worker hired. It thus reduces each worker's effective net productivity by that amount and must, therefore, result in the employment

of fewer workers. Hence, to the extent that conditions remain the same, this premium acts to reduce employment. Ultimately, wages tend to be reduced by the amount of the tax, and employment to return to its former normal. Professor Brown has described this result and the manner in which this readjustment takes place with care and clarity.[5]

The effects of this compulsory provision upon the unorganized five-sixths of American workers would be no more complicated but equally costly. Their readjustment to the new situation thus created would probably be more rapid. Employers, unable to hire so many workers when their productivity was lessened by the imposition of the tax, would temporarily reduce working forces. The greater unemployment thus occasioned, aggravated by the same result in organized industries, as described above, would operate to increase the labor supply, thus permitting employers to hire workers for wages which represented productivity discounted by the amount of the tax. In spite of the specific provision of the law that contributions must not be deducted from wages, this result would obtain. The law's evasion would be made less difficult because, in the course of a few months or years, with the price changes and wage revisions which constantly take place, the actual deduction would be extremely difficult to detect. There is no reason, in this connection, to revise the conclusion stated by Brown, that "an insurance premium imposed upon employers not in proportion to output or to sales but according to the number and wages of workers hired, will not raise prices in general and must fall upon wage-earners and upon wage-earners alone. Wages plus premiums will equal what wages were before."[6] No

5. Brown, H. G., The Economics of Taxation, pp. 160–63.
6. Op. cit. p. 163.

legal provision short of actual governmental wage fixing could avoid this result.

Proponents of compulsory insurance frequently advance the argument that it will not only aid workers by providing unemployment benefits but that it will also actually reduce unemployment. And those who realize the necessary incidence of the tax, as outlined above, suggest that this increased employment will compensate workers for their contributions. It is urged that workmen's compensation acts have reduced accidents, and that unemployment insurance may achieve a similar result in reducing unemployment. To that end, the Standard Bill provides that contributions shall be kept in "industry funds," and suggests the possibility of dividends on these funds to be paid to managements whose unemployment is so reduced as to permit the payment of such rewards. This is, of course, only a less direct incentive than the premium differentials suggested by others for the same purpose.

There are good and sufficient reasons, however, for concluding that this objective could not, to any significant extent, be attained. It assumes, in the first place, that employers could, if they would, prevent a large part of unemployment. This assumption is highly questionable. More than two-thirds of our total unemployment over a period of years is that which may be described as cyclical and seasonal. The great unemployment crises are distinctly cyclical. There is a possibility that individual managements, if sufficiently motivated, might reduce seasonal unemployment to some extent, but their utter helplessness in cyclical crises has been amply demonstrated. But how can one conceive of the remote possibility of achieving dividends on the industry funds of unemployment reserves as a greater incentive for reducing unemployment than

that which already exists in the form of income to be realized by keeping plants in operation? Is this possible dividend to be regarded as a more impelling incentive than the basic profit motive of industry?

This argument that the provision of compulsory unemployment insurance would reduce unemployment further assumes, generally, that managements will pay at least a part of the costs of such insurance, and that the possibility of lessening these levies will keep constantly before employers the desirability of reducing unemployment. This assumption, however, as has been indicated, is almost certainly unjustified, so that the argument reduces itself to the contention that employers, spurred on by the remote possibility of dividends on unemployment reserve funds and by their payments to these funds, which they deduct from wages, will be appreciably more likely to reduce unemployment than they now are when shutdowns and layoffs mean idle capital and consequent enormous losses.

It is only fair to indicate in this connection that if all employers were so organized under a sort of general economic council that their efforts might forcibly be coördinated by the council's authority, and if all the costs of a system of adequate unemployment benefits were assessed by taxation against the incomes of the group of employers, so that this capitalist group might expect to lose more in the form of unemployment taxes than it could possibly gain through operations in securities markets, operations which, if they are to be profitable, necessitate ups and downs, periods of expansion and of depression — if such an arrangement prevailed, then it is quite conceivable that concerted action might be forthcoming which would appreciably reduce unemployment. No such revolutionary development,

however, is contemplated by any of the measures advanced to date.

V

Since private voluntary unemployment insurance cannot be expected to characterize industry generally, as has been indicated, and since compulsory insurance to cover most industries must be secured at the expense of workers, a condition which is properly regarded as undesirable, it appears that the only type of unemployment insurance which offers a possibility of effecting desired results is that which involves direct governmental subsidies to workers. Accordingly, the plans for unemployment insurance now advocated by the Socialist Party and by the Conference for Progressive Labor Action, each of which proposes state subsidies similar to those which characterize the British System as well as the programs of ten other foreign nations, appear more likely to attain desired results than the others mentioned. If it is desired to collect the costs of such insurance from consumers in proportion to the values they consume, it is conceivable that some form of taxation might be devised for that purpose. It is possible, also, that a tax system might be so constructed as to penalize the owners of industries which contribute what is regarded as an excessive share of unemployment. European experience, which is considerably older than ours, and which has come to involve some forty-five million wage-earners in unemployment insurance systems, has moved toward increasing government subsidies and discriminating taxation such as that just mentioned; and this experience suggests that the system of insurance which is ultimately found satisfactory in this country will be of some such nature.

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SAINT-SIMONISM AND THE RATIONALISATION OF INDUSTRY[1]

SUMMARY

I. Introduction, 640.—II. Saint-Simon in his relation to the policy of laissez-faire, 642.—Neither Saint-Simon nor the Saint-Simonians were socialists, 648.—III. The philosophy of history, 650.—The principle of productivity and its importance, 651.—IV. The rule of law and the harmony of interests in a society of producers, 657.—V. The Saint-Simonian criticism of competition, 665.—The division between the idle and the producing class, 668.—The rationalisation of economic enterprise, 674.—VI. The position and importance of the banks, 675.—The theory and rational use of credit, 677.—VII. Conclusion, 680.

I

A REVIVAL of interest in Saint-Simonism in France, which began before the war and has continued since, has illuminated in many directions the extraordinary richness of this body of thought.[2] The economic opinions of Saint-Simon and his followers and their ideas on economic organisation, thus made better known to us, are susceptible, in my opinion, of an interpretation and exposition which may enhance their historical significance, and, at the same time, contribute a point of view worthy of consideration on questions of contemporary moment.[3]

1. The material for this and other articles on French socialism which I hope will follow was gathered during a sojourn in France made possible by the generosity of the Bureau of International Research of Harvard University and Radcliffe College.

2. The most significant studies which have appeared since the war are, perhaps, the following: a new edition of the Doctrine de Saint-Simon. Exposition, Première Année, 1829, with a scholarly introduction and illuminating notes by C. Bouglé and Élie Halévy; Paris, 1924. Le Socialisme, by Emile Durkheim, which is devoted largely to Saint-Simon and is a publication of Durkheim's lectures of 1895 and 1896; edited by M. Mauss, Paris, 1928. The beautiful and scholarly volume by Henry-René d'Allemagne, Les Saint-Simoniens, Paris, 1930.

3. The best analysis of the economic opinions of Saint-Simon and the

Signs and portents are not lacking that the reconstruction of economic liberalism is proceeding in a direction foreshadowed, in a sense, a century ago by Saint-Simon. The term currently used, and often misused, to describe this development not only in economic policy but in the economic order itself, is the rationalisation of industry. One hesitates, in view of the formlessness and the indefiniteness of the ideas associated with this word, to describe Saint-Simon's scheme of industrial organisation as rationalisation; but the singular compatibility of this term with eighteenth century usage and the practical certainty that Saint-Simon would have used it himself, if it had only been invented, is enough to remove one's scruples.[4]

There is no need, at this point, to add one more formal definition of rationalisation to an already staggering total. The justification of its use in connection with the ideas of industrial organisation formulated by Saint-Simon and his disciples will become clear as these ideas are developed. It may be ventured, however, that if the following remarks on rationalisation are to be taken as correct, then Saint-Simon may be described, without serious reservation, as an exponent of the policy of rationalisation.

"The aim of rationalisation is to eliminate that competition which results from faulty judgment of individual producers, from their miscalculation of the market, and to coördinate the efforts, first, of individual enterprisers within an industry; second, of the different industries within a country; and third, of the competing industries in two or more countries. . . . Rationalisation, in its broadest sense, aims to eliminate

Saint-Simonians I know of is that of Élie Halévy in his two articles published in the Revue du Mois, 1907 and 1908.

4. There is also the support of recent precedent for this interpretation. See National Industrial Conference Board, Industrial Standardization, 1929, pp. 32, 33. "In a sense, it [rationalisation] represents a fulfillment of the old idea of Saint-Simon who proposed to organize France as a national factory after the French Revolution." I should not, however, subscribe to this formulation of Saint-Simon's proposals.

errors of judgment due to faulty knowledge of market conditions by vesting the power to regulate production, fix prices and allocate territories in a central authority. Rationalisation represents the idea of enlightened leadership embracing an entire industry in its relation to other industries and to the national economy."[5]

The ideas of Saint-Simon and his followers on the organisation of industry are hardly to be understood except as an integral part of their conception of society. The organisation of industry was to them an exercise in the practical application of a social philosophy. This philosophy has, I believe, a certain affinity with modern liberalism, and it is in the light of the relation of liberal economic policy to the rationalisation of industry that Saint-Simonism appears to me to achieve a new significance. The economic policy of Saint-Simon and the Saint-Simonians, starting from the liberalism of their contemporaries, moved towards a position which, in many ways, is more acceptable to modern economic opinion than it was to the opinion of their day.

II

The school has been studied principally in relation to the development of socialism, and the chief problem presented by its economic thought was conceived to be how to explain the fact that this system gave so large a place to economic incentive and yet appeared to replace competition by a planned and directed economic order. Saint-Simon seems at times to consider himself a complete follower of the laissez-faire economists in matters of economic policy and yet his principal disciples, Bazard and Enfantin, visualize a society in which competition is to be replaced by "organisation." As Bouglé and Halévy put it, "The essential problem to be resolved by those who wish to know the Saint-

5. National Industrial Conference Board, Rationalization of German Industry, 1931, pp. 6, 7.

Simonian philosophy in its application to the facts of economic life is perhaps, to understand how, proceeding in certain respects from a reflection on the observations of Adam Smith and his disciples, it has arrived at conclusions entirely different."[6]

It is indeed true, as Halévy points out, that in 1814 or 1815, when Saint-Simon turned from his abstract consideration of a philosophy which was to be a science of sciences to the problem of the organisation of society, his views on economic policy seemed to be identical with those of the two young political scientists and economists, Charles Comte and Charles Dunoyer, who were engaged at the time in forging a liberalism for nineteenth century France.[7] As the thought developed, however, in his long series of writings on politics and economic organisation, it submitted to modification and amplification. This development continued throughout the numerous articles contributed by Enfantin to Le Producteur and finally resulted, in the *Exposition de la Doctrine* of 1828 and 1829, in a plan of social organisation which most of the commentators describe as socialism.

Certainly the Saint-Simonians by 1830 considered their system to be an almost complete antithesis to liberalism.[8] But this opinion, I believe, rested upon an imperfect understanding of contemporary liberalism. Furthermore, the modification to which the thought of Saint-Simon was submitted at the hands of his disciples was similar, in many ways, to the modification to which liberalism has submitted in the course of the last century. A broader conception of liberalism and a juster interpretation of Saint-Simon will show him, I think,

6. Doctrine de Saint-Simon; Ed. of 1924, Preface, p. 38.

7. La Doctrine Economique de Saint-Simon, Revue du Mois, 1907, p. 645.

8. Saint-Simon, himself, contrasted his industrialism with the liberalism of Comte and Dunoyer. See below, p. 644.

to be the precursor of something of much greater practical significance for our times than socialism.

The earlier writings of Saint-Simon, which deal in the main with philosophy and scientific methodology, explain, as it were incidentally, the organisation of society by means of a special application of that broadest generalization of science, the Newtonian law of attraction.[9] It was only after 1814 that history appeared to Saint-Simon as the great repository of facts necessary to an explanation of society, that the laws of history were envisaged as generalizations from these facts, and that the problem of the reorganisation of society was seen to depend upon the correct formulation of these laws. From this time on the attention of Saint-Simon was turned to the social sciences in general and to economics in particular.

His first application of the "scientific" method to the study of politics and economics was not impressive. In the process, however, he was introduced by his pupil, Augustin Thierry, to the philosophy of political and economic liberalism.[1] Under this influence he proclaimed Adam Smith and J. B. Say as his masters in matters of economic policy, found the political liberalism of Comte and Dunoyer congenial, and discovered in the British constitution a model for the political organisation of society. To Thierry's dismay, however, it was not long before a rift began to appear between the doctrine of Saint-Simon and contemporary liberalism. By 1818 or 1819 Saint-Simon was opposing his "industrialism" to the liberalism of Comte and Dunoyer.[2] To

9. Saint-Simon's disciples, particularly Hubbard and Pierre Leroux, accused Fourier of having taken the idea of "passional attraction," upon which his system rests, from Saint-Simon.

1. Oeuvres de Saint-Simon, 1:183: De la Réorganisation de la Société Européenne. Written with his pupil, Augustin Thierry.

2. See Halévy, La Doctrine Economique de Saint-Simon, Revue du Mois, 1907, p. 662.

the end, nevertheless, he continued to hold Adam Smith in esteem and to pattern, as he supposed, his ideas of economic organisation upon the principles of the Wealth of Nations.

This "industrialism" was certainly something quite different from laissez-faire. It is not that Saint-Simon advocated an increase in the economic functions of the state; on the contrary he laid down in his early writings the principle, to which he adhered later, that that government governs best which governs least. "Industry has need of being governed as little as possible, and for that there is only one method, which is to be governed as cheaply as possible."[3] Even tho his disciples were inclined to alter this dictum to "the best government is that which spends most wisely," there is nothing of collectivism in Saint-Simonism.[4]

It is in another direction that the opposition to laissez-faire lies. Halévy is inclined to think that Saint-Simon's proclamation, in the first article of his budget, of the necessity of being concerned with the care of the invalid and the securing of work for the well contains the elements of socialism. "This double affirmation of the right to existence and the right to work may be, perhaps, considered to be in Saint-Simon the first germ of the future Saint-Simonian socialism."[5] Machinery for the performance of the double function, however, can certainly be devised within the framework of liberalism.

A more serious evidence of the opposition between Saint-Simonism and liberalism, in the opinion of Bouglé and Halévy, is stated on the first page of the Introduction to the *Doctrine*. The Saint-Simonians want "to

3. Oeuvres, 2:132: L'Industrie.

4. For a contradictory estimate see J. Delevsky, Les Antinomies Socialistes, Paris, 1930, Bk. 2, ch. 2.

5. Op. cit., Revue du Mois, 1907, p. 668.

combine resources with order, to direct the whole of the activity of society towards a common end"; they speak of a *direction sociale*.[6] The liberal economists, according to these commentators, knew no *direction sociale* apart from the ends of the individuals making up society.

We meet here a term much used and abused by modern writers. If the vague phrase "social control" means anything, it means a social policy which implies a recognized end. But economic liberalism has never been without an end, and the economic liberalism of the early nineteenth century was certain of the methods which would achieve this end. The economic well-being of society, the maximum of productivity with a given quantity of resources, could be achieved by allowing private economic enterprise a considerable freedom in the disposition of these resources. This was its end and this was its policy; this also was its *direction sociale*, its social control. There is no essential difference here between Saint-Simonism and liberalism.

"Politics is the science of production," said Saint-Simon. This meant simply that the political organisation and policy of society should be adapted to the needs of production. In the hands of his disciples productivity, if not the sole end of social policy, remained at least an important criterion of the well-being of the social order. Where Saint-Simon and, even more, his followers, parted company with the liberal economists was in their opinion that something more than economic self-interest, even than controlled self-interest, was necessary to maximize production. This did not mean the ownership and management of industry by the state; it did not mean necessarily government initiative in encouraging cöoperative practices among individuals.

6. Cf. the comments of Bouglé and Halévy in their preface to the Exposition de la Doctrine, p. 73.

What it did mean was a certain measure of economic rationalisation initiated and controlled by business men.

Saint-Simon did not go far in formulating an economic program, nor did he concern himself with that economic science which, on his own showing, must precede the task of reorganisation. He contented himself with the economic analysis and, as he thought, the economic policy of Adam Smith and J. B. Say. He was concerned chiefly in his remaining writings with an attack from many angles upon that philosophy of natural rights of which laissez-faire was an economic manifestation.

This very general attack on laissez-faire liberalism was taken up by Enfantin, by far the ablest economist of the Saint-Simonian group, in his articles in Le Producteur and, later, in the *Exposition de la Doctrine.* Saint-Simon had at best a very cursory knowledge of Smith and Say; Enfantin had read the contemporary economists and understood them. He attempted to put both the Saint-Simonian attack upon competition and the Saint-Simonian ideas of economic reorganisation upon a reasoned foundation.

The Saint-Simonians never succeeded in formulating an economic theory, but Enfantin, who was by far the most frequent contributor to Le Producteur and who was undoubtedly responsible for most of the economics in the *Exposition*, has given us in his numerous writings a pretty fair indication of the lines it must have taken.[7] It would be hardy indeed to say that in this economic analysis and in these ideas of economic reorganisation there was nothing of socialism. Enfantin approached the Ricardian theory of rent with the same queries that were

7. The Exposition de la Doctrine de Saint-Simon was in the main delivered by Bazard, but was the intellectual work of the whole group.

being voiced in England by the Ricardian socialists. If rent is not a cost of production, then it would appear "that the proprietors who let their land, collect, by means of rent, a portion of the product created by the work of laboring men."[8] Enfantin is at great pains to show that rent and interest are, in the main, incomes drawn from the product of labor by the idle and that they must, in the course of time, diminish to something approaching zero. In Le Producteur, he also touches upon that attack on inheritance which is carried to completion in the *Exposition*.

The whole approach to these problems, however, is non-socialistic in the sense that it is from the direction of production rather than distribution.[9] Equality in the distribution of income, or any approach to equality, seemed neither desirable nor possible to the Saint-Simonians of this period. The pecuniary incentive is necessary and the pecuniary incentive implies reward in proportion to productivity. The existence of high rents and of a high interest rate is to be condemned chiefly on the ground that it serves to keep a part of the productive resources of society idle. The decline of these "unearned" incomes must be expected to be the result only of an improvement in the productive processes. The attack upon inheritance is not in favor of state ownership of the means of production but in favor of some more effective means of putting economic re-

8. Le Producteur, 1:243: Considérations sur la Baisse Progressive du Loyer des Objets Mobiliers et Immobiliers.

9. It must be recognized that the Saint-Simonians were much more concerned with questions of social justice than Saint-Simon. It is suggested by commentators that this is perhaps to be explained by their social origin. (See Weill, L'École Saint-Simonienne, Paris, 1896, p. 21.) Rodrigues was barred from the École Normale because of his religion, Bazard was an illegitimate child, and Enfantin the son of a bankrupt father. This sort of consideration, however, is easily exaggerated.

sources into the hands of those who can use them than is afforded by the existing system.

There is undoubtedly in the writings of Saint-Simon a trend toward a greater preoccupation with the well-being of the laboring class, and this trend is continued in the writings of his followers. The publication *L'Industrie*, which appeared in 1817, was prefaced by the epigraph, "Everything by means of industry, everything for it." The writings of 1819 to 1821 are chiefly given over to the praises of a business man's society. But we read in his *Quelques Opinions Philosophiques à l'Usage du 19e Siècle*, written in 1823, that "the best social organisation is that which makes happiest the majority of the population in securing for it the greatest quantity of means and facilities for satisfying its most urgent needs." [1] From this we pass rapidly to the thought which runs throughout his last work, *Le Nouveau Christianisme;* society must work for "the amelioration of the moral and physical existence of the poorest class; society must be organised in the manner most conducive to the achievement of this great end." [2] The same statement of ends recurs frequently in Le Producteur and in the *Exposition de la Doctrine.*

There is nothing here, however, which is peculiar to socialism. A preoccupation with the welfare of the laboring class has been a characteristic of liberal economic policy from the time of Adam Smith to the present. In the hands of the left wing of the Saint-Simonian group after 1830 this interest in the economic well-being of the laboring class did tend to become exclusive and led to a form of proletarian socialism. In so doing, however, it introduced elements which were in-

1. Oeuvres, 10:56.
2. Ibid., 7:173.

compatible with the doctrine of the "great" period.[3] It is not necessary to concern ourselves here with the degeneration of Saint-Simonism into a sentimental mysticism which refused to see the existence of antagonisms in society and which preached an egalitarianism with which neither Saint-Simon nor the authors of the *Exposition* would have been in sympathy.

III

The society of producers, or *industriels*, to use the term which Saint-Simon coined to oppose to liberalism,[4] is not an order to be created out of whole cloth by a master organiser. It is an order whose elements have already been prepared by the march of history. Saint-Simon is content to marshal the evidence of history and to call it to the attention of his contemporaries. "One does not create a system of social organisation, one perceives the new alignment of ideas and interests which has been formed, and indicates it, that is all. It is not I who have formulated the project of a constitution of which I have discovered the foundation," he says; it is eight centuries of European history.[5]

The true "maker" of social constitutions is not a king or a constituent assembly; it is the scientist or philosopher who, through studying the unfolding of events, becomes capable of pronouncing the law of their development. This law, when recognized by the mass of enlightened men, becomes a principle of social organisation.[6] "This recognition, or, if one wishes, this legitima-

3. For a good discussion of the later Saint-Simonians see Bouglé, Chez les Prophètes Socialistes, the first essay.

4. In the broader sense in which Saint-Simon uses the term *industriel* it is synonymous with producer. In the narrower and more frequent use it means entrepreneur.

5. Oeuvres, 4:179: L'Organisateur.

6. Ibid., 6:188: Du Système Industriel.

tion of the preponderant forces which exist in a society at all the important epochs of civilisation, is what one calls its constitution, which, without that, would be but a metaphysical revery." [7]

Since, in Saint-Simon's philosophy of history, the idea is the prime mover, the task of the scientist who concerns himself with the future of society is the search for those innovations in thought which contain the secret of impending events. The great principle, a knowledge of which is indispensable in politics, is "that every social order is an application of a philosophical system and that, consequently, it is impossible to institute a new order without having first determined the new philosophical system to which it must correspond." [8]

The construction of this new philosophy, the positive philosophy, is a process which has been going on for centuries and began, according to Saint-Simon, with the introduction of scientific method into Europe by the Arabs. But in that field of thought which relates to the organisation of society the application of scientific method has had to await our own times. The ideas which will in the course of time establish the society of producers have, however, now come to light. Their discoverer and systematiser is none other than Adam Smith. The study of economics has furnished us with the principles about which society can be reorganised on a positive basis. "These principles . . . have at last been enunciated by the immortal Smith; for they are nothing other than the general truths which follow from the science of political economy." [9]

The most general principle which the economists, and particularly Smith, have discovered, and upon which

7. Ibid., 6:197.
8. Oeuvres, 3:23: L'Industrie.
9. Ibid., p. 152.

the organisation of society will be and must be perfected, is that productivity is the social end.[1] If the maximising of productivity is the end of society, social policy in its broadest sense consists in providing the social environment in which economic resources can be most effectively utilized. "The whole of society rests upon industry. Industry is the sole guarantee of its existence, the single source of all its wealth and all its prosperity. The state of things most favorable to industry is by that very reason the most favorable to society. That is our point of departure and is, at the same time, the end of all our efforts." [2]

It must not be understood that this precept is to be taken as the foundation of economic policy only. Saint-Simon would refuse to recognize any such distinction between economic welfare and social welfare as is made by modern economists. He takes J. B. Say to task for distinguishing between economic policy and politics, even tho elsewhere he praises Say highly. Despite this distinction Saint-Simon feels that Say "sees vaguely and, perhaps, in spite of himself, that political economy is the true and sole foundation of politics." [3]

If economic productivity is taken as the sole end of social policy one may draw therefrom some hardy conclusions and Saint-Simon does not shrink from doing so. It becomes the central thought about which a morality, an economic policy, a political policy, an aesthetic, and even a body of religious dogma is developed. If

1. Saint-Simon insists that this generalization is a principle and hence of the order of science, and not a precept, which is of the order of policy. "If the principle is true it will naturally be converted into a precept."

2. Oeuvres, 2:13: L'Industrie (Foreword). This broadest of generalizations, which is, in a sense, the center of his whole thought on the problem of social organisation, recurs in various forms throughout all his subsequent writing.

3. Ibid., p. 185.

this principle is true, he tells us, "political policy . . . is henceforth no longer given over to the caprice of circumstance; its fate is no longer attached to that of a power, of a form, of a prejudice; its *terrain* is known; its method is understood; and the science of society has henceforth a principle; it becomes at last a positive science." [4]

There is no society, according to Saint-Simon, without common moral ideas, and the society of producers is no exception. As Durkheim points out, this may be taken as Saint-Simon's conception of society; the common possession by the mass of the population of a set of moral evaluations.[5] That society in which a set of moral, aesthetic, economic, and political evaluations are most acceptable to the largest proportion of the population is the society which is most stable and harmoniously organised. It is just the absence of a generally accepted group of moral evaluations which characterises the critical period in which European society finds itself. Saint-Simon states the nature of the moral problem which faces the positive philosopher as the complete reëstablishment of the system of moral ideas upon a new foundation.[6] The general criterion of evaluation is before us — economic productivity. That line of conduct which is conducive to social productivity is, in general, good; that which is not is bad.[7]

The relation between morality and politics is a sufficient indication that political policy in the society of producers can be made definitive by the same method. It is Saint-Simon's opinion that "in reality politics is

4. Ibid., p. 189.
5. Durkheim, Le Socialisme, p. 129.
6. Oeuvres, 3:37; L'Industrie.
7. In the later works, and particularly in the last, Le Nouveau Christianisme, Saint-Simon is not so sure of the necessity of a complete remaking of moral ideas. By a selective bit of exegesis he is able to discover that the moral ideas of Christianity will suit the society of producers excellently well.

only a consequence of morality, which is knowledge of the rules which are to be followed in the relation between the individual and society in order that both may enjoy a maximum of well-being. But politics is nothing but the science of selecting from among these rules those which are important enough to be utilised and, at the same time, clear enough and general enough to permit of utilisation. Thus politics is derived from morality and the institutions of a people are only the consequences of its ideas [moral evaluations]." [8]

Although neither Saint-Simon nor the Saint-Simonians developed an aesthetic, we can follow the trend of their opinion well enough to realise that here too the principle of productivity had its influence. The Saint-Simonian trinity of Science, Industry, and the Beaux Arts already indicates the connection; and Saint-Simon goes on to assure us that the fine arts have a definite rôle to play in depicting the beauty of the various aspects of the society of producers, in exciting the *industriels* to enthusiasm, and, on the other hand, in portraying the ugliness of alternative modes of conduct.[9] M. Cerclet in his editorial introduction to the first volume of Le Producteur embroiders the same theme. The day of the ungoverned imagination in art is past, he tells us; artists cannot direct the march of progress by persevering in that direction. But, if they wish "to serve the common cause, to contribute to the increase of general well-being, to produce in men fruitful sensations of the sort with which a cultivated mind can sympathise; if they wish to propagate with the aid of these sensations generous ideals which are, at the same time, real; then they may see opening out before them an immense future of glory and success." [1]

8. Oeuvres, 3:30: L'Industrie.
9. Oeuvres, 7:160: Le Nouveau Christianisme.
1. Le Producteur, 1:10.

The principle of economic productivity enables us to shape our political policy, our economic policy; it enables us to distinguish good conduct from bad conduct, the beautiful in art from the ugly. The true, the beautiful, and the good, by means of this touchstone, are made objectively determinable. All that is needed is the energy of a religious belief to raise the society of producers to a maximum of productive efficiency. This also Saint-Simon attempts to provide in his *Nouveau Christianisme*.

The principle of productivity, which is to make positive all social science, this precept which is to unify all social policy, seems true and incontrovertible to Saint-Simon for reasons of perhaps mediocre importance. Industry is the foundation, he says, upon which rests the very existence of society, it is the sole source of all wealth and all prosperity.[2] Again, he tells us that "there is an order of interests felt by all men, the interests which relate to the maintenance of life and well-being. This order of interests is the only one on which men understand each other and feel the need of agreeing, the only one on which they have to deliberate and act in common, the only one which provides the material for policy and which must be taken as the sole criterion for the evaluation of all institutions and all social phenomena." [3]

Productivity as a criterion of social justice, as the end of social activity, suffered a certain modification and attenuation at the hands of Saint-Simon, and further strictures were added by his followers. At times Saint-Simon, praising Bentham, mentions the greatest happiness of the greatest number as the end of social

2. Oeuvres, 2:13: L'Industrie.

3. Oeuvres, p. 188. Later the same idea was to be related to the theory of evolution, the principle of productivity was to be recognized as conducive to survival; but this justification escaped Saint-Simon.

activity. On other occasions he suggests equality of opportunity as an important consideration. The *Nouveau Christianisme* advances "the amelioration of the moral and physical existence of the poorest class," as the proper goal. But all of these goals are, in Saint-Simon's system, compatible with the end of productivity and remain subsidiary to it.

The Saint-Simonians, at least at first, follow along the same line. Olinde Rodrigues proposes the increase in the real wages of the laboring class as the social purpose, but finds no contradiction between this and the economic interests of society as a whole.[4] Enfantin praises Sismondi for having shown to the economists the true purpose of their efforts: the well-being of the producing class.[5] He asserts on another occasion that it is only by accepting the principle of productivity that "the words liberty, rights of man, country, glory, republic, constitution, etc.," will acquire a positive meaning.[6] But later he appears to depart from the principles of his master.[7] The Saint-Simonians of the *Exposition* present several ends of social policy: "universal association," the "most complete exploitation of the globe," the "perfection of the intellect, the sentiments, and material activity." Nevertheless, they consider these various goals compatible with each other and the strong penchant of the whole group for a unified system continually drew them back to the simpler principle of Saint-Simon.[8] An organic period in history is char-

4. Le Producteur, 1:198: Considérations Générales sur L'Industrie.
5. Ibid., 1:558: Sur la Baisse Progressive du Loyer . . . , 2d article.
6. Ibid., 3:14: Le Temps — L'Opinion Publique.
7. Ibid., 4:385: Considérations sur le Progrès de l'Economie Politique.
8. The Saint-Simonians were great systematisers. Saint-Simon early gave notice that he accepted Condillac's definition of a system (Oeuvres Choisis, 1:148: L'Introduction aux Travaux Scientifiques au 19e Siècle.), which is as follows: "A system is nothing other than the arrangement of the different parts of an art or a science in an order in which they

acterised by a systematised and generally accepted body of ideas on the nature of the world and of society and by a unified and commonly accepted policy, i.e. group of evaluations.[9] The society of producers is to introduce an organic period *par excellence*. In the field of social phenomena and in the field of social policy the unifying principle and precept is that of productivity.

IV

The establishment of such a society will inaugurate a rule of law and supplant a rule of men. Saint-Simon states the antithesis as an administrative and industrial régime against a military and governmental régime.[1] The society of producers demands the sort of man who can apply recognized principles toward the attainment of admitted ends. For the social categories of those who command and those who obey is substituted the single category of those who produce. Business is brought into politics and the politicians have become producers.

A military and governmental régime, such as the middle ages witnessed, utilised force and imposed restraint because of the ignorance of the many and the caprice or egoism of the few. It is a régime in which the road to social distinction leads by way of artifice, flattery, and the use of force and intrigue. The ability to serve society counts for nothing, the ability to beguile

mutually sustain themselves and in which the last are explained by the first. Those which give meaning to the others are called principles, and the system is the more perfect as the principles are fewer in number; it is even desirable that they should be reduced to one."

9. The conception of history as a perpetual oscillation between organic and critical periods was touched upon by Saint-Simon and was made by Bazard, in the Exposition, an important part of Saint-Simonian thought.

1. This antithesis Saint-Simon admits he has borrowed (Ouevres, 3:157). As Halévy points out, from Saint-Simon it passed to Comte, to Buckle, and to Herbert Spencer, "who gave it a character of universal popularity." Revue du Mois, 1907, p. 649.

and bewilder, everything. In an industrial and administrative order, on the other hand, "all social functions have a positive character, and a well determined objective; the capacity necessary to fulfill them is so evident, so easy to recognize, that there is no justification for indecision on this matter; every citizen must naturally assume the position which is proper to him. In such an order one will see disappear simultaneously the three principal sources of disorder in the existing political régime; arbitrariness, incapacity and intrigue." [2]

This order is characterized in the first place as the rule of principle rather than of individual caprice, as the rule of reason rather than of force. In the second place, it is an order resting upon an identity of interest between the individual and society. It follows from the second characteristic that position and distinction can only be attained by those who serve society well.

The rule of reason and principle follows, as we have seen, from the thorogoing application of the principle of productivity. The identity of interest between the individual and society has always existed in the field of economic activity. The broadening of the field of economic activity, therefore, necessarily narrows the scope of possible antagonism between the individual and society. In a true society of producers the identity of interests is complete.

Saint-Simon, then, welcomes the growing strength of the business man, the development of an industrial society. "The single class in society in which we desire to see ambition and political courage increase, the single class in which this ambition can be useful, or this courage necessary, is the class of producers (*industriels*); for their individual interest is perfectly in accord with the common interest, by the very nature of things. It is in

2. Oeuvres, 4:199: L'Organisateur.

the realisation of this truth that we have warmly embraced the cause of the producers, regarding it as the real center and focus of civilization." [3]

It would appear that in a society of producers the need of governmental restraint, control, and regulation, would disappear; that the most common needs of society could be met by the spontaneous association of producers; in other words, that it would be an anarchy. The Saint-Simonians at times toyed with this conclusion, and Proudhon, influenced by them, accepted it.[4]

The position of government in the society of producers is one of surveillance; it performs the functions of a night-watchman. Saint-Simon's famous parabol indicates his opinion of the relative importance of government and industry. He takes an example from the organisation of École Polytechnique which illuminates the point even better. When the school was founded the problem consisted of devising a program of studies and securing those best fitted to instruct. Having solved this problem to the best of their ability, the organisers considered their task finished. "Considering nevertheless that the nature of this establishment gave rise to certain administrative affairs, they shared this secondary function among the different professors who united occasionally in an administrative council. Finally, persuaded that it was necessary to maintain a certain order in this rather numerous gathering of young people, in order that they might draw from the instruction the greatest possible benefit, the organisers charged with this care an estimable functionary, who possessed insufficient

3. Oeuvres, 3:168–69: L'industrie.

4. Auguste Comte, who accepted the distinction between a governmental and an industrial régime, refused to consider a society without government. "Government in the normal state of things is the head of society, the guide and agent of the common good." (Système de Politique Positive, 1824, p. 11.) See on this matter the Exposition, p. 162, Note 48, Bouglé and Halévy.

ability to be a professor, and who regarded himself as a subaltern. Everyone knows how this establishment prospered." [5]

The society of producers has small need for regulation. The business men are to govern according to rule, and hired subordinates are to ferret out and correct possible infractions of the rules. Saint-Simon on a number of occasions drew up various plans for a government of producers. They are well known and, to us, seem somewhat fantastic. However, Halévy shows that Saint-Simon modeled them on those advisory and deliberative bodies composed of business men which were often assembled after the Restoration, and the frequency with which similar bodies are called together to confer on government policies concerning business and finance in our own time shows that the idea is anything but fantastic.

The reason for the growing importance of the business class in society and, at the same time, the justification for placing control in its hands is, primarily, the identity of individual and social interest in economic affairs. Saint-Simon rests his case here on what he considers to be facts demonstrated beyond controversy by the economists. The individual interest of the business man is to maximize his profits, but he succeeds in doing this only by using his abilities to the best advantage in producing goods and services which other people want.[6] Wealth, then, is a sign of capacity, capacity in the serv-

5. Oeuvres, 4:203: L'Organisateur.

6. Halévy attempts to draw a distinction here between the opinion of Saint-Simon and that of the economists. (Revue du Mois, 1907, p. 672.) "A producer succeeds, according to Saint-Simon, not exactly in proportion as he satisfies, better than his competitors, the needs of consumers, but in proportion to his capacity to obtain . . . credit from the bankers." But in a society, such as Saint-Simon envisages, in which the bankers distribute credit in proportion to productive capacity, this is a distinction without a difference.

ice of society; but this is true only among *industriels*. Saint-Simon emphasises this point. "The fact is that wealth is, in general, a proof of ability among the *industriels*, even in the case in which they have inherited the fortune they possess; while among the other classes of citizens it is always probable that the richest are inferior in ability to those who have received an equally good education but who possess only a moderate income. —This truth, I repeat, will play a very important rôle in positive politics." [7]

Saint-Simon's problem was the utilisation of economic motive in the general interest, not its elimination. In an industrial order, "every one attains a degree of importance and reward proportional to his capacity and to his investment; this constitutes the highest degree of equality desirable or possible." [8]

The society of producers seems, on the surface, to be the ideal of laissez-faire painted in its simplest colors. But, and this is essential, behind and conditioning this play of economic incentive was a body of moral ideas, aesthetic evaluations, and political institutions oriented in the direction of the general interest. Halévy is quite right in asserting that "Saint-Simon did not think that it suffices to appeal to the egoism of individuals in order to realize the harmony of interests." [9]

Does this, however, distinguish his ideas from contemporary liberalism? It is quite true that "the condition of a harmony of interests," is to Saint-Simon, "that every member of society, not only knows his own interest, but is capable of raising himself to a consideration of the general interest." This also was Adam Smith's opinion.

7. Oeuvres, 5:49 Note 1, Du Système Industriel.
8. Ibid., 4:151: L'Organisateur.
9. Revue du Mois., 1907, p. 673.

Critics of nineteenth century liberalism too often forget that behind its justification of economic individualism there lay an insistence upon a political or moral order restraining the excesses of individualism. The same critics too often take that methodological device of the economists, the economic man, as the expression of a theory of human motives. In the liberalism of Saint-Simon, as in the liberalism of the contemporary economists, neither was self-interest the single determinant of conduct nor was the correct knowledge of self-interest a sufficient guarantee of conduct in the interest of society.

What chiefly distinguished his liberalism from theirs was the belief in the possibility of a "postive" morality, a sort of professional business ethic, a limiting boundary of commonly accepted moral evaluations within which economic incentive could be allowed free play. The general willingness to follow this code would make government regulation relatively unnecessary. Halévy and others have taken the "positive" morality, determined by a commonly recognized social end, as the foundation of S aint-Simonian socialism, but a doctrine of social ends underlies the whole of the liberal philosophy. Saint-Simon was merely more certain of where the social interest lies and of the roads which lead in that direction than contemporary liberals. The movement of the travellers along these roads, their grouping and the disposition of their baggage, could then be safely left to the individual interest of each traveller in attaining his destination.

Definite undertakings in the general interest can best be administered by business men, since they alone have had definite experience in administration.[1] However,

1. Saint-Simon drew a sharp distinction between theory and practice and between theoretical ability and administrative ability; which, in his

the rule of business men means something other than this. In the society of producers every act is or should be the application of a principle; every producer acting in his own interest is also acting in the interest of society. But who is to apply these principles, who is to show the individual producer his interest? Some are more capable of understanding and applying the principles than others, and, in Saint-Simon's opinion, this may be the result of business ability or of position in the economic order. Able business men naturally obtain control of large scale enterprise, and the influence of large scale enterprise is and should be great.[2] Certain business men are, by reason of their position, capable of forming conclusions relating to a wider sphere of economic activity than the ordinary producer. The most noteworthy example of this group is the bankers whose self-interest demands an accurate judgment of business conditions as a whole.[3] Large scale entrepreneurs and particularly bankers are the true rulers in the society of producers, but caprice and force are absent from this rule. It consists in the elucidation and application of principles designed, on the one hand, to maximize the yield of economic resources and resulting, on the other, in maximizing the profits of individual producers.

There is no antagonism between the interest of the producers themselves. Saint-Simon and his followers

opinion, in the same individual are mutually exclusive. In his early writings he was inclined to regard the savant as the best governor of society but in his later works the business man came definitely to the fore. The scientist still holds a high position as the discoverer and systematiser of the laws of nature and society but it must be left to the business man to apply these principles in utilising materials and men to the advantage of society.

2. Saint-Simon and his followers foresaw and welcomed the development of large scale enterprise: See Oeuvres, 5: 106–112 for a discussion of the functions of the heads of large scale enterprise in government.

3. Saint-Simon's theory of banks was developed slowly after 1816. It will occupy our attention in the subsequent section.

were fond of comparing the society of producers to a business enterprise engaged in the production of goods for the needs of all.[4] The interest of the laborer is that of his employer. The way to maintain and increase the well-being of the workers is to give them work. "In the nature of things, the heads of industrial enterprises (who are the real leaders of the people, since it is they who direct them in their daily work) always tend directly, and in their own interest, to increase as much as possible the scale of their enterprise, and there will result from their efforts in this direction the greatest possible extension of the amount of work to be done by the laboring class." [5]

This, as we shall see, was not quite the opinion of the Saint-Simonians. They produced, however, no theory of class struggle. The most serious cleavage between social groups — and with the development of an industrial society this cleavage is seen every day more clearly — is between the producing class and the idlers. The existence of rent and interest, in particular, enables a large group of able producers to live in idleness. The remedy is not to abolish individual ownership of the instruments of production, for a society of producers is based upon private ownership. Property rights change, however, with the passage of time. Over certain objects,

4. Oeuvres, 2:69: "A nation is nothing but a great industrial company." The Exposition, p. 242, speaks of the industrial régime as "a state in which the different nations, spread over the surface of the globe, represent only laborers in a great factory, working under a common law toward the accomplishment of the same end." See also the note by Halévy and Bouglé, Exposition p. 242, note 133.

5. Oeuvres, 6:179, Du Système Industriel. Saint-Simon says again, 10:135, that the working class will become dangerous only "if the administrators of the national interests are inept and egoistic enough to allow them to lack work." But this is to suggest that there may be an antagonism of interest between employers and employed. In the Exposition, p. 242, which speaks of the relation between these two groups as "the last vestige of slavery" it becomes more than a suggestion.

such as slaves, they are eliminated; in other directions they are modified and attenuated. With the development of a society interested primarily in production, property rights along with other social institutions will submit to a gradual modification in the interest of production. The nature and direction of this change was one of the principal preoccupations of the Saint-Simonians. It ended in their well-known demand for the abolition of inheritance.

V

The society of producers is a competitive order. The effective application of the principle of productivity demands that every producer have a reward proportioned to his productivity; and this reward is to be determined in the open market where services are offered and demanded. If ability is to find its natural position in the economic order, the competition for place must begin at a common level. Equality of opportunity is necessary, and Saint-Simon asserted it as a characteristic of the society of producers.

This demand for equality of opportunity, however, as was obvious to anybody, stood out in flagrant contradiction with Saint-Simon's justification of the existing distribution of wealth among producers. A young man receiving an inheritance from a wealthy father could hardly be said to start out in the competitive struggle on equal terms with a young man of no inheritance. Furthermore the possession of wealth in itself tends to affect, in at least one important market, the terms on which services are exchanged. Laborers are handicapped by their poverty in their bargaining with wealthy employers.[6]

6. Exposition, p. 238. In the wage contract is the laborer a free bargainer No, because a refusal of employment means a sacrifice of livelihood.

These inequalities affect the functioning of the principle of productivity. They are, moreover, in obvious contradiction with the ideal of distribution in a society of producers, already enunciated by Saint-Simon: "To each according to his capacity, to each capacity in proportion to its work." [7] The Saint-Simonians, setting out immediately on the death of their master to propagate his system of thought, undertook at the same time to perfect it by reconciling its antagonisms.

Other influences were also brought to bear upon the conception of a society of producers. Sismondi had observed the effects of commercial crises in England, and had published his suspicion that the competitive order was not as adequately self-regulating as its defenders contended. The Saint-Simonians, particularly Enfantin, read the *Nouveaux Principes d'Economie Politique*, which appeared in 1819, and also the subsequent debate between Say and Sismondi in the pages of the *Revue Encyclopédique*. Tho not accepting Sismondi's theory of crises, they absorbed his criticism of competition. The ideas of Fourier on the anarchy of competition were also beginning to be appreciated in France. Then, too, in the later years of his life even Saint-Simon had begun to doubt whether the profit incentive was sufficient in itself to bring about that combination of resources most conducive to productivity. He had issued in his *Du Système Industriel*, and had repeated in his *Nouveau Christianisme*, an appeal to the philanthropists, a

7. The first term of this rule meant the allocation of control of resources in proportion to the ability of the producer to administer them; the second term meant to Saint-Simon, and usually also to the Saint-Simonians, the distribution of income in proportion to productivity. But there were variations in the interpretation of the second term as, particularly after 1830, egalitarianism crept into the Saint-Simonian philosophy.

class unaffected by the narrow considerations of self-interest." [8]

Thus inspired, the Saint-Simonians launched an attack upon the competitive order, upon the maintenance of a class of idlers in society by the payment of rent and interest, and upon the institution of inheritance. In so doing they greatly extended and amplified the economic ideas of their master, and at the same time attempted to support them by an economic analysis outside the competence of Saint-Simon. Whether they introduced any serious modification is another matter.[9]

The Saint-Simonian method of "launching an attack" was to demonstrate that the inevitable processes of history were in the act of modifying or eliminating institutions and practices incompatible with the principle of productivity. Their economic analysis consisted in the discovery and elucidation of historical laws governing the development of economic institutions.[1] At the same time, they believed that a thorogoing criticism of the existing weaknesses of these institutions and practices

8. It must be noted, however, that the philanthropists are merely urged to persuade the savants, the industrialists and the crown that their own self-interest lies with the interest of society in the establishment of an industrial order. Besides, the philanthropists are simply producers whose position in the economic order enables them to obtain a wider view of the nature of this order than is vouchsafed to the ordinary business man. See Oeuvres, 6:123–25.

9. Weill (L'Ecole Saint-Simonienne, p. 9) maintains that Enfantin, in his criticism of laissez-faire and competition, introduced a socialist element into Saint-Simonism.

1. We touch here again that difficult point in a "positive" philosophy which the exponents of a scientific history are always floundering over. The writing of history involves the selection of facts; can the principle of selection be "objective" or "scientific"? In connection with the Saint-Simonian laws of historical development, Bazard has some illuminating opinions to offer. They lay bare the crux of the dispute between the Saint-Simonians and Auguste Comte on the application of the positive method in history. Exposition, p. 185.

has the effect of accelerating the working of those historical forces making for change.[2]

The economic society of the present has inherited from the past a division of its members into a class of idlers and a class of producers. The idlers, through their property rights in land and capital, draw an income in rent and interest which permits them to maintain themselves in their idleness. By means of the institution of inheritance the possibility of living a life of leisure may be passed on indefinitely from generation to generation. Saint-Simon had stated the fact, but he had not given its explanation nor had he drawn from it its full consequences. Enfantin takes it as his starting point. This line of cleavage between the interests and behavior of the idle and the producing classes constitutes the central problem of a proper study of economics.

The economists of the classical school, approaching the study with their abstract and unhistorical method, have tried to create from a psychological theory of human behavior a system of generalizations of pretended eternal validity.[3] Enfantin finds the traditional division of the subject into production, consumption, and distribution unsatisfactory for two main reasons. First, it separates things which are by their nature inseparable; one must consume in order to produce, and vice-versa; the distribution of the product is nothing but the payment for the services of production. Second, it ignores the really significant antagonism of interest be-

2. Marx had the same escape from his historical determinism.

3. Saint-Simon had already condemned the psychological method in the study of society, the origin of which he attributes to Cabanis, and had advocated the historical method. Comte is merely expressing Saint-Simon's opinion when he describes the psychological or physiological method in the social sciences as fruitless. See his Système de Politique Positive, Oeuvres de Saint-Simon, 9:181. Enfantin followed his master in the historical and social method as opposed to the psychological and unhistorical method of the economists.

tween the idle class and the producers and the historical laws to which the development of each class has submitted.[4]

One of the lamentable consequences of this faulty division of economic problems, particularly in the hands of J. B. Say, is that capitalists and landowners are described as producers. But this is to ignore "the difference in history of the development experienced by the class of *industriels* and the class of idle proprietors; the influence of the first has been, obviously, constantly on the increase, while that of the second has been just as constantly on the decrease. It is, then, impossible to put them in the same category in economic nomenclature." [5]

Society is in process of a slow development toward a more perfect utilisation of its resources. Its method is a continuous change and improvement in the association, that is to say the combination, of individual efforts. It follows that "political economy, or the philosophy of industry, must have as its purpose the study of the laws which govern this combination of individual efforts toward a common end." [6] Certain of these laws, and by no means the least important, relate to the constant change which is affecting the relative position of the idle and the producing classes.

This division of interest, which has so great an effect upon the productivity of society, leads Enfantin to an

4. Le Producteur, 3:385: De la Concurrence dans les Entreprises Industrielles.

5. Ibid., 3:69, Sur L'Organisation Féodale et l'Organisation Industrielle. If one criticises Enfantin on the ground that the enterpriser and the capitalist may be as much the same person as consumer and producer, he has his answer ready. It is that the lending of capital and the administration of enterprise are quite different social functions, and that the social functions obey quite different historical laws. See Le Producteur, 2:477: Opuscules Financiers.

6. Le Producteur, 3:67: Sur l'Organisation Féodale.

examination of the theory of rent and interest. He accepts the Ricardian theory of rent and distinguishes clearly, which Ricardo did not do, between interest and profits. Interest, in his opinion, is composed of two elements — an insurance charge proportioned to the risk of loss or impairment of the capital and a payment necessitated by the scarcity of resources useful in production. Both land and capital are available to producers who command credit. It would seem, therefore, that the way to reduce the interest and rent charges, which weigh so heavily on the producing class, is to perfect the mechanism by which credit is made available to those capable of using it.[7] An examination of recent historical changes is said to show that, as a matter of fact, this is happening. The interest rate on loanable funds, according to Enfantin, is in a continual process of diminution, and the reason is to be found in the perfection of the means for disseminating credit. This change is accompanied by that decrease in the importance of the class of proprietors and that increase in the importance of the class of producers so desirable in the general interest. The Saint-Simonian explanation of a continual increase in productivity to be expected in an industrial order turns, therefore, in large part on their theory of banks and of credit, which will be taken up in the next section.

Another direction in which the "combination of efforts" is being perfected lies in the elimination of the evils of competition. We have already seen the evolution in Saint-Simon's mind of a conception of a society of *industriels*, which he opposed to laissez-faire

7. There is no doubt that the tendency of Ricardian economics to hold the interests of the land owning class, in a certain sense, opposed to the interest of society influenced Enfantin strongly. He finds Malthus' defence of the landed interest ineffectual and unconvincing. Le Producteur, 1:557: Sur la Baisse Progressive du Loyer, 2d article.

liberalism. This process continued under the hands of Enfantin until even Adam Smith, the great discoverer of the principle of productivity, was seen to be subject to the limitations inescapable by even the profoundest thinker living under the influence of a critical epoch.[8]

The Saint-Simonian attack upon competition as the economic order of laissez-faire liberalism consists in large part of vague generalities derived from their philosophy of history. Competition is based upon no principle of order or organisation.[9] It is the ideal of a critical period characterised by an anarchy of ends and an anarchy of means. It unites inextricably the immoral sentiment of struggle with the moral sentiment of emulation. "And who then will direct? No one; everyone knows so well the progress of humanity, towards what end it is directed, that there is no need of general council of general rules of conduct; order springs naturally from disorder, union from anarchy, association from egoism." [1]

The Saint-Simonians do, however, bring two specific charges against competition. Both are, in part, founded upon Sismondi. The first is that the individual employer, misunderstanding his own as well as society's interest, because of his narrow and partial view of the facts, uses his superior bargaining power to depress wages. The second is that the anarchistic nature of competition leads to a maldistribution of economic resources.

Enfantin, in connection with the first point, draws a

8. Le Producteur, 4:386–87: Considérations sur les Progrès de l'Économie Politique.

9. "Like the absolute dogma of liberty, competition is founded upon no principle of order; or rather, such principles can only be adopted as exceptions to the general rule." Le Producteur, 3:389: De la Concurrence dans les Entreprises Industrielles.

1. Le Producteur, 3:416. A review of Charles Comte's Traité de Législation.

distinction between competition as it affects wages and competition as it affects the technique of production; or, in his own terms, between competition of persons and competition of things.[2] The first runs contrary to the general interest, the second promotes it. In his discussion of the effects of the policy of cheapness we catch the echo of Sismondi's trumpet. "Industrial improvements," he tells us, "consist in making more products or better products in the same time and with the same effort. The economists, involved in the obscurity of their nomenclature, have given another definition to improvements; they have said that they consist in making more or better products for the same price." [3] More and better things can be made for the same price, however, without a reduction in the amount of effort required but merely by a reduction in wages, and this must be condemned.

This point of view is in flagrant contradiction with a real cost theory of value, which Enfantin appears willing to accept; nor does he soften the contradiction by any distinction between normal and market prices. The exploitation of labor, however, in so far as it is the work of employers, appears to arise out of a misunderstanding of self-interest inherent in a competitive order. This evil can be corrected in an organised society where, presumably, goods will exchange in proportion to effort.[4] In so far as both employers and employees are exploited by the class of idle proprietors, the remedy lies in the reduction of the charge on the loan fund which is already in process of accomplishment.[5]

2. Le Producteur, 3:388: De la Concurrence dans les Entreprises Industrielles.

3. Ibid., p. 386.

4. Ibid. Labor, consequently, will then receive its "whole product."

5. The exploitation of employers is, however, incomparably less than that of the laborers. See Exposition, p. 239. The Exposition, in dividing the class of producers into employers and employees, in emphasizing

The maldistribution of economic resources, the second specific evil of competition, is demonstrated by the recurrence of industrial crises in a competitive order. Altho Sismondi had called the attention of the Saint-Simonians to the nature of crises, they refused to accept his explanation. Enfantin seeks the cause in the fundamental cleavage between proprietors and enterprisers. As long as the investment of capital is in the hands of those who have no or little connection with the administration of industry, economic resources will be badly allocated among the different uses. The origin of crises lies in the competing demands of inadequately informed producers and in the ignorant investment of resources by a class of idle proprietors.[6]

The abolition of inheritance will, to a certain extent, improve the distribution of capital, for it will take this responsibility out of the hands of the class of ignorant idlers. This step is the more necessary since it will also promote that equality of opportunity necessary in the interest of productivity. In the *Exposition* the abolition of inheritance takes a central position in Saint-Simonian thought.[7]

But who is to inherit the result of individual effort and accumulation? [8] At times the Saint-Simonians suggest the state,[9] but in general they remain true to the doctrine of their master and continue to doubt the economic capacity of state owned and state directed enter-

the "exploitation of man by man" and the "inheritance of poverty," is in process of turning Saint-Simonism into the socialism it became after 1830.

6. Le Producteur, 3:394–95: De la Concurrence. . . . Exposition, p. 258.

7. Saint-Simon had never suggested interfering with the right of inheritance.

8. There is, in the writings of the Saint-Simonians, no suspicion that the abolition of inheritance would alter the motives of accumulation.

9. See Exposition, p. 248.

prise. If the state is to collect inheritances, it is in lieu of other taxes; the funds will be used, if necessary, to guarantee that employment of the working class which Saint-Simon proclaimed as the first charge on the budget.[1] There is nothing of real collectivism in the writings of the Saint-Simonians.

The type of economic organisation which was to supplement competition and correct its weaknesses forecasts the epoch of economic rationalisation. What Enfantin sketches in various articles in Le Producteur is, more or less, a strong trade association in each industry, dominated by a bank specialising in the securities of that industry. The heads of the association, in possession of the production figures and costs of each enterprise, would advise in the allocation of credit; yet the entrepreneur would be free, under these limitations, to manage his enterprise as he saw fit. "If in every branch of industry there existed an organisation similar to the association of enterprisers in the building trades in Paris, and if the heads of this organisation were constantly occupied in weighing the credit of every entrepreneur in order to advance him, in proportion to his credit, the capital necessary to his work, then these organisations would exercise a supervision, without doubt legitimate for it would be necessary in the interest of prudence, over the operations of each of its clients." [2]

The idea remains undeveloped. Like the economic theory of the Saint-Simonians, their ideas on economic organisation are incomplete and unsystematised. Yet some form of economic rationalisation is the only conclusion to be drawn from a body of thought which eschewed collectivism and condemned communism, pro-

1. Compare the remarks of Bouglé and Halévy in their preface to the Exposition, pp. 52, 53.

2. Le Producteur, 3:396: De la Concurrence. . . .

claimed the potency of economic incentive and the individual ownership and management of the instruments of production, while at the same time condemning unlimited competition and its progenitor, laissez-faire liberalism.

The organisation of enterprises within the industry is only a part of the rationalisation. The competing demands of different industries for the control of the productive resources of society necessitates an institution capable of passing upon the validity of these demands. At the apex of the society of producers stands the central bank.

VI

Saint-Simon, as we have already pointed out, had had his attention called to the economic function and importance of banks shortly after the Restoration, when an impoverished government had appealed to the bankers for funds and had taken them into its council. An examination into the nature of banking had revealed the society of producers organised in a natural hierarchy with the banks at the top, governing, through their dissemination of credit, the activity of all.[3] The bankers, then, are the obvious representatives of the interests of the whole producing class. "This being the situation, the most important banking houses of Paris find themselves called upon to direct the political activity of the producers." [4]

The Saint-Simonians, gathered about the death bed of their master, undertook to propagate his ideas, in par-

3. "In reality all the cultivators and manufacturers are linked to each other by the class of traders, and all the traders have, in the bankers, agents who are common to them, in such fashion that the bankers can and must be considered as the general agents of industry." Oeuvres, 5:47: Du Système Industriel.

4. Ibid., 5:47; also 8:136–37: Catéchisme des Industriels.

ticular to call the attention of the public to the economic function of the banks.[5] In their hands the theory of credit became the most important problem of economic study and the banking system the corner stone of economic organisation.

Enfantin, on this matter, as on all others economic, was the spokesman of the group. He discovered that on the question of credit the economists, for lack of an historical method, had gone sadly astray. Without the application of this method it is impossible to see the important fact that the changing relation between idlers and producers, between lenders and borrowers, contains the terms of an historical law of the development of credit. "When one does not see that society is composed today of two very distinct classes, of those who possess and are idle and of those who work and acquire, it is impossible to understand the whole utility of credit; that is to say, its influence on the perfection of social organisation." [6]

The lending and borrowing of the instruments of production is only one part, but a very important part, of the phenomena of the circulation of goods. What we may call the problem of circulation is the perfection of the mechanism by which goods are put, as quickly as possible, into the hands of those most capable of utilising them.[7] This mechanism has already gone through a long process of historical development, in the course of which credit has appeared as its most effective instrumentality. Enfantin states succinctly the most important stages of this development in arranging a juxtaposition of the acts of barter, sale, and promise with their intermediaries commodities, money, and

5. Exposition, p. 267, note 154 by Bouglé and Halévy.
6. Le Producteur, 2:476: Opuscules Financiers.
7. Ibid., 4:41: De la Circulation.

paper.[8] The most effective circulating medium is credit, and Enfantin appeals to Ricardo in support of paper as the sole medium of the future.

The perfecting of an effective circulating medium, in the Saint-Simonian economics, has a considerable bearing on the terms of the loan of economic resources from the idle to the producing class. When united with the improvement of the banking system it explains that fall in the interest rate which is eventually to wipe out the leisure class. An improvement in the medium of exchange "mobilises," in Enfantin's phrase, economic resources which otherwise would enter only with difficulty into the processes of exchange.[9] It makes available to the group of enterprisers an increased quantity of capital instruments and thus tends to lower the rate of interest. The banks, in addition to providing the perfect circulating medium, act as the distributors of the control of capital. Enfantin offers an account of the nature of banking which was, for the time, excellent. He sees the service performed by a bank as, essentially, the substitution of well-known credit for little-known credit. The banks have nothing to do with the creation of capital; their loans to the producing class are strictly limited by their borrowings from the possessing class.

The producers, nevertheless, are enabled to obtain capital on easier terms. In fact, in Saint-Simonian economics the banks appear as representatives of the interests of the producers as against the idlers.[1] They form an essential stage in that line of development which leads, eventually, to the elimination of interest

8. Ibid., 2:476: Opuscules Financiers.

9. Ibid., p. 42.

1. "The end of their association is to facilitate the mobilisation of capital in general; but principally to facilitate its transfer from the hands of those who are idle to the hands of those who work and to make the conditions of borrowing more and more favorable to the workers." Le Producteur, 2:112: Des Banques d'Escompte, 2d article.

on capital loans. There are two ways in which the banks lower the rate of interest. In the first place, by substituting their accurate judgment of the credit of producers for the ignorant judgment of the proprietors, they lessen the risk and consequently that part of interest which is nothing but an insurance charge. In the second place, they increase the quantity of available capital, for idle proprietors are willing to lend to the banks what they would refuse to lend to any but the safest private enterprises.[2]

There is nothing in Enfantin's analysis to show why the rate of interest should eventually fall to zero or, for that matter, to any other level. Altho the rate of pure interests depends, in his opinion, on the scarcity of capital, he apparently sees no connection between changes in the rate of interest and the quantity of savings. He sees clearly enough that a fall in the rate of interest will facilitate borrowing, but refuses to admit that the increase in borrowing will check this fall. This is the more strange since he relies, in part, on the manipulation of the discount rate to control business fluctuations. Here, as elsewhere, after proceeding a certain way with the economists in their analysis of economic incentive, he throws overboard the "psychological" method and embraces his "historical" laws: the interest rate has fallen in the past; therefore it must continue to fall, and the only limit is zero.

The banks, in addition to procuring capital for the industrial class on easier terms, also check the wasteful tendencies of competition by regulating the distribution of capital in each industry and between industries. The existing banking system must be condemned in its han-

2. As soon as paper has been completely substituted for metal the quantity of funds available for lending will be increased, for the banks will be under no necessity of holding a reserve. Ibid., 2:18–33: Des Banques d'Escompte, 1st article.

dling of business fluctuations on two counts: there is no real control of borrowing through manipulation of the discount rate, and in time of panic the bankers are apt to become panic-stricken and to refuse to lend.[3] The remedies lie, first, in the perfection of control by a central bank acting in the public interest and, second, the elimination of gold reserves and consequently of the necessity of protecting them by refusing credit.[4]

These suggestions do not go much beyond the powers and duties of existing central banks. Enfantin demands in addition, however, that the central bank in a society of producers shall regulate the distribution of credit between industries; not by a differential discount rate but by rationing. The stabilisation of industry as a whole and the prevention of a maladjustment of production to demand in any industry will be the responsibility of this bank. In the event of the curtailment of credit to any industry, the bank or banks affiliated with the association of producers in that industry will be responsible for the rationing of credit to its various members.[5]

"Let us suppose," says Enfantin, "that the association of enterprisers has a bank and that the operations of this bank are submitted to the control of a central bank; let us suppose, further, that this central bank has

3. Le Producteur, 2:121–22: Des Banques d'Escompte, 2d article.

4. Enfantin really had no theory of money. An excessive issue of bank notes would cause them to "fall to a discount," but he did not see that this means a rise in prices. In his theory of credit control he is a good banking school man; as long as loans are made for the legitimate needs of business there is no possibility of the notes falling to a discount.

5. Exposition, p. 272: "Thus the centralisation of the general banks and of the ablest bankers into a unitary, directing bank which dominates them all and can balance justly the various needs for credit experienced by all kinds of industry; on the other hand, the greater specialisation of particular banks, in such fashion that each accepts the responsibility of overseeing, protecting and directing a particular industry; that, in our opinion, is a political fact of the highest importance."

become convinced of what we have just been saying, that the building trades must not continue to extend their activity; the central bank will reduce the credit advanced to the enterprisers' bank and this bank in turn will exercise the same restraint towards its clients, who, in consequence, will be forced to abandon new enterprises. No one can complain of despotism, for the regulation will come from the men who evidently are the best situated to judge the situation in its totality." [6]

The Saint-Simonian conception of economic organisation, it appears, represents a considerable amplification of the thought of Saint-Simon. It envisages a society in which the enterprisers in every industry are organised in a trade association which seriously limits the free initiative of its members; in which the extent of the operations of each enterpriser are determined by an industrial bank with regard to the claims of competing enterprisers and the well-being of the industry as a whole; in which the distribution of economic resources between industries is regulated by a central bank upon consideration of the economic well-being of society as a whole; and, finally, in which the expansion or contraction of the economic activity of society as a whole is under the control of the same central agency.

VII

The society of producers sketched out by the Saint-Simonians appears, to most of their commentators, remote from the ideals of early nineteenth century liberalism. The remoteness, however, as I have suggested, arises in part from a misunderstanding of liberalism, which *has* had at all times a social policy apart from and superior to the individual ends of the members of

6. Le Producteur, 3:401: De la Concurrence. . . . See also the Exposition, p. 261.

society, and which *has* insisted, however implicitly, upon the necessity of a body of political institutions and of commonly accepted moral ideas limiting and controlling the free play of economic incentive.

This society of producers submitted, in the hands of Saint-Simon and of his followers, to considerable modification between its early statement and the *Exposition de la Doctrine*. The conception of economic liberalism has gone through the same sort of modification between the days of Comte, Dunoyer, and James Mill and our own time. Both Saint-Simonism and economic liberalism evolved in the direction of what we call today economic rationalisation. In the light of this evolution the society of producers appears to acquire considerable importance as an early exposition of the principles of rationalisation.

This necessarily sketchy explanation of the development of Saint-Simonism has, without doubt, neglected certain aspects of the thought pertinent to the subsequent evolution of socialism. But what Saint-Simonism contributed to socialism, in the main, were words and phrases such as "the exploitation of man by man," the "inheritance of poverty," "the progress of society is through association," phrases expressing ideas never completely assimilated into the system. The socialism of Saint-Simonism is in the fringes of the thought, it consists of various colorful *aperçus* and it always contradicts the central ideas.

The Saint-Simonians did not defend their ideas of economic organisation well. Their economic analysis, while comprising many acute observations, is full of flagrant contradiction. It is really the application of a sociology, envisaged as the philosophy of history, to certain economic problems. The weaknesses of the Saint-Simonian system all spring from the tenacity with which they apply their philosophy of history, formu-

lated as a theory of progress, to all the problems of human behavior.

This fundamental difficulty appears in various directions. It leads, in the first place, to a denial of the necessity of separating social studies from the consideration of social ends, of separating, in other words, description from evaluation. From this confusion springs the attractive but absurd attempt to base a scientific ethic, a scientific aesthetic, and a scientific political theory on the principle of productivity.

It leads, in the second place, to that failure to distinguish between historical trends and theoretical tendencies which destroys the validity of so much of their economic analysis. The historical trend of an institution, a price, or a quantity, is the summation of all the causes acting upon a variable; a theoretical tendency describes its behavior under the influence of a limited number of causes. It was precisely against this isolation of causes, however, that the Saint-Simonians protested. They would have nothing of the philosophy of "as if." Their science was the science of society, and their method was that of history.

In the third place, it leads to the denial, or at least the undervaluation, of all knowledge which is not the knowledge of science. Saint-Simon distinguished sharply between science and practice: his science was a body of certain laws, his practice was the application of these laws as rules. In the society of producers all knowledge except the knowledge of the laws of science is ignorance, all conduct except in conformity with known rules is unsocial.

The society of producers developed into a rationalised economic order which is not antagonistic to modern liberalism; in fact it represents the sort of order which modern liberalism must envisage as the only practicable

alternative to socialism. In this order many industries formerly composed of a large number of small-scale business enterprises are now dominated by new types of business organisation which have destroyed or seriously limited the possibility of competition; the competitive bidding of a free labor market has given way to collective agreements between associations of laborers and associations of employers; the expansion and contraction of credit and, to a certain extent, the distribution of credit between industries is influenced by central banks; governments undertake to secure by a policy of public expenditure that stability of employment which is beyond the capacity of private enterprise. This order, the development of which it must be the function of liberal policy to shape and direct, is something quite other than socialism. It recognises the productive possibilities of economic incentive and attempts to utilise them. This also was characteristic of the Saint-Simonian society of producers.

Both Saint-Simonism and modern liberalism demand, nevertheless, an elaborate network of limitations upon the free play of the profits motive. The chief difference between these doctrines lies in their conception of the nature of these limitations. Saint-Simonism foresaw the possibility of developing an ethic, a sort of business morality, of sufficient strength to prevent self-interest from defeating the interests of society. Liberalism, while insisting upon the necessity of the acceptance of common moral ideas, and while admitting the possibility of perfecting in certain directions a business ethic, insists, nevertheless, upon the importance of constructing a technique of government regulation. Neither Saint-Simonism nor liberalism is impressed with the economic advantages of state ownership and control.

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INSTITUTIONAL FRICTIONS AND TECHNOLOGICAL UNEMPLOYMENT

SUMMARY

I. The argument that labor-saving improvements release purchasing power and so reabsorb displaced labor, 684.— The fallacy in this argument, 686.— Circumstances under which the displaced labor will be reabsorbed, 687.— II. Effect of price reduction, 688; of restrictions upon credit and wage rates, 690.— III. Effect of price maintenance, 692; of lower interest rates, 693.— IV. The effect of universal monopoly upon unemployment, 696.— Quasi-monopoly control of prices contrasted with rigid control of wage-rates, 697.

I

In a recent article of considerable length Professor Paul H. Douglas makes a detailed and thoro analysis of the view so generally held by labor leaders, employers, journalists and politicians that technological improvements permanently displace labor, and that therefore the necessary solutions lie in the direction of shorter hours of work, more rigid elimination of juvenile labor and the pensioning of older workers. Mr. Douglas reaches the definite conclusion that this view is incorrect, that workers are not permanently thrown out of employment by improvements in machinery and in managerial efficiency. There is indeed nothing novel about this conclusion, but Mr. Douglas complains that writers, such as Sir William Beveridge in his "Unemployment, A Problem of Industry," fail to *explain* the forces at work and "consequently have not given any tangible justification for their faith that somehow the displaced workers will be reabsorbed elsewhere in industry."[1]

1. Paul H. Douglas, Technological Unemployment, American Federationist, August, 1930. See also Douglas and Director, The Problem of Unemployment, 1931.

The argument which Mr. Douglas advances, however, in support of his thesis is one long familiar to economic theorists. Labor-saving improvements reduce the cost per unit of output. The reduction in costs leads either to lower prices to consumers or to higher profits for employers. If prices are reduced in proportion to the lowering of costs, the quantity purchased will — in the case of commodities for which there is an elastic demand — increase so that no labor is displaced. In the case of inelastic demand, labor is indeed displaced, but the lower prices enable consumers to purchase the same quantities at much lower money expenditures; a part of consumers' incomes is therefore set free and can be applied to the purchase of other commodities. Labor is required to produce these new commodities and so the displaced workers are reabsorbed into industry. If prices are not reduced, the lower costs yield larger profits to employers who in consequence enjoy an increased purchasing power. This added income is either spent or saved. In either event labor is required, whether in the production of consumers' goods or producers' goods, and so the displaced labor is absorbed into these expanding industries.

It is admitted that the absorption does not take place at once; there is transitional unemployment, but eventually the released purchasing power will make its effect felt. In the long run, labor-saving improvements cannot permanently cause unemployment.

This analysis, it is claimed, is an improved modernized statement of Say's law. Yet it is not difficult to show, I think, that the analysis as presented is, at least in part, fallacious. Moreover it is not an accurate interpretation of Say's law, which, as stated by Say, James Mill, and Ricardo has, as far as long-run tendencies are

concerned, stood the test of a hundred years of economic theorizing.

The fallacy in the argument briefly outlined above arises from a confusion resulting from the identification of the *demand for labor* and the *demand for goods*. In order to get the clearest possible case, let us assume a condition of absolutely inelastic demand. Labor-saving improvements are introduced to an extent which permits half of the labor formerly employed to be discharged, and so labor costs are cut in two. Prices are reduced in proportion to costs, but the quantity sold is not greater than before. Consumers gain, indeed, in purchasing power, *but their gain is offset by the loss in purchasing power suffered by the displaced workers*. Consumers are able to buy more of their goods, but the workers who are thrown out of work cannot continue their former purchases. There is no net increase in purchasing power.[2] Assuming, for the sake of simplicity, that the fortunate consumers will use their increased purchasing power to buy the same sort of goods that the now unemployed workers formerly bought, we observe no change whatever in the demand for goods. But even tho there were a *shift* in demand there would be no *increase* in the demand for goods in general. The purchasing power set free by the reduction in price, consequent upon lower costs, is sufficient to maintain the

2. The objection might be made that the unemployed do in fact continue to consume, say, one-half as much as before. This consumption, however, must be financed out of charity, public relief, savings or borrowing. But none of these, except possibly the last, amount to anything other than a shift in purchasing power. Borrowing might indeed result in an expansion of credit and purchasing power at least in certain phases of the cycle, and to this extent the argument needs slight modification. But from the long-run standpoint it is not likely that the pressing needs of unemployed persons actually have the effect of increasing the volume of credit and purchasing power. All that can be granted is that there is a slight modification of the use to which credit and purchasing power is put.

former demand for goods despite the reduced purchasing power of the displaced wage-earners, but it is not sufficient to maintain the *former demand for labor*. There is no *extra* purchasing power available to buy *added* goods, the production of which would cause the displaced labor to become reabsorbed into industry. The situation is precisely the same if we assume that prices are not reduced in spite of lower costs. Employers have larger incomes, but these are offset by the decline in labor incomes consequent upon the unemployment caused by the labor-saving improvements.

If we could assume that the displaced workers had somehow found new employment and were again earning wages, then indeed there would be a net gain in total *real* purchasing power arising out of the additional goods which they produce. But this is to put the cart before the horse, to assume the problem solved without explaining how it happened. And this is, indeed, what Say, Mill and Ricardo did. They argued that increased product means increased purchasing power. They assumed, without explaining how it happened, that the increased production had already occurred. If idle productive factors are set to work to make goods there will be no want of a market. Goods are exchanged against goods. Such was their argument. But the mechanism of labor reabsorption they did not explain. This is precisely what is attempted by the "setting-free of purchasing power" analysis explained above. As we have seen, however, closer examination of this thesis exposes a serious fallacy. It turns out that, as far as this analysis goes, there is no reason at all why the displaced labor should not remain permanently unemployed.

There are, indeed, certain circumstances under which, as I see it, the displaced labor would be reabsorbed into industry, but they are not of the character explained

above. And under other conditions I do not believe that the reabsorption can take place at all.

The Say-Mill-Ricardo analysis assumed without question that idle productive resources would ere long be set to work to produce goods. The only question to which they addressed themselves was whether or not the new production would find a market. On what basis could they assume the former point? On the assumption of a free price system, of a free market for the agents of production. They assumed that the prices of these agents would fall to the point at which it would be profitable for entrepreneurs to employ them. More concretely they assumed a competitive labor market — competition among employers for labor, and competition among laborers for jobs. Under this assumption they were right. Technological improvements could not permanently displace labor.

Mr. Douglas, however, makes no such qualifications. Yet under modern conditions, in which trade unions and unemployment insurance make wage reductions difficult, it is quite possible that the displaced labor cannot be reëmployed. It may or may not be reabsorbed *depending upon what wage and credit policies are pursued.* These are cases in which the institutional controls cannot be overlooked, if one is to give a definitive answer.

II

First, let us assume that the price of the product is reduced in proportion to the decline in per unit cost. If the demand is elastic[3] no labor will be displaced at all.

3. The *degree* of elasticity required depends upon whether one is considering the displacement of labor in the industry in which labor-saving improvements are being introduced alone, or in industry as a whole including the accessory machine industries. In the latter case an elasticity of one is sufficient. In the former case an elasticity of demand considerably greater than one may be required, since the labor-saving

On this point there is no disagreement. If the demand is inelastic, workers will be displaced. Under certain conditions these displaced workers would be reabsorbed into industry elsewhere; under others not.

As already indicated the consumers of the lower priced articles gain in purchasing power, but at the same stroke the workers who have been discharged lose an exactly equal purchasing power. This is on the assumption that the decrease in unit cost had been effected by means of labor-saving devices which were not capital using; hence no larger disbursements in the form of interest payments would be required. If, however, the reduction in cost had been effected by means of more elaborate machinery, the gain in purchasing power of consumers *plus interest receivers* would be exactly offset by the loss in purchasing power of the displaced wage-earners. There would be no new purchasing power released, and therefore the displaced workers would not readily find new jobs.

Under certain conditions, however, the unemployed labor would be reabsorbed. If the prices of all goods enjoying cost-reducing improvements were lowered to the new cost level, and if the demand were perfectly inelastic, the *same* quantity of these goods would be sold at lower prices. The general price level would be lower as a result of these cost-reducing improvements. Since less money (including credit) would be needed to circulate these particular goods, bank credit would be set free and this would now become available for new uses. Easy money and credit conditions always follow

improvement might result in a very great reduction in the labor employed in the special industry, without any very great reduction in cost per unit of output. Machine costs (depreciation and interest charges) might very nearly offset the reduction in labor costs. If machine costs largely offset reduced labor costs, the demand would have to be extremely elastic, if no workmen were to be discharged in the special industry in question.

from cost and price reductions. Unless this easy credit situation were counteracted by the arbitrary action of the central bank or banks, discount rates would tend to be lower and the released bank credit would sooner or later be taken up.[4] Entrepreneurs in possession of this bank credit would be enabled to put the productive forces in motion in anticipation of the sale of the product out of which the factors of production would eventually have to be paid. In this event the reabsorption of the released credit would be more or less closely balanced by the increased output of goods. The price level would, therefore, continue at the lower level reached as a result of the decline in the prices of those particular products which enjoyed cost-reducing improvements. The assumed reabsorption of credit would supply an added monetary purchasing power sufficient to buy the products of the formerly displaced, but now reëmployed, workers at prices sufficiently remunerative to pay the current level of market wages.[5]

Thus at the same time that the labor-saving improvements displace labor, the accompanying reduction in prices displaces credit. The released credit becomes a means by which the displaced labor can be reabsorbed. This mechanism is, however, not explained by the analysis usually given.

Suppose, however, the released bank credit is not taken up — perhaps for a considerable period pessimism restrains the spirit of enterprise, or perhaps central banks for one reason or another take up the slack by

4. Quantitatively such release of credit would be important precisely in proportion to the extent of the cost reductions effected. The cumulative effect upon the total purchasing power in a rapidly progressing community might easily be very great.

5. This assumes that any tendency in the direction of diminishing returns from natural resources, consequent upon the increased output of goods, would be offset by greater technical efficiency of the complementary factors.

"hoarding" the gold reserves — then the displaced labor will tend to remain unemployed *unless wages are reduced.* Assume, for the moment, that somehow or other the displaced labor had become reabsorbed without any wage reduction. The employment of this labor would result in an increased output of goods. Assuming, however, no corresponding credit expansion, the added goods would have to compete with the old output for the same monetary purchasing power. This would mean a forced lowering of prices, which would, in turn, lead to business losses and eventual bankruptcy unless money costs per unit of output were also lowered. Money costs per unit of output might be reduced in two ways: (1) by further cost-reducing improvements, but in so far as these were labor-saving improvements more labor would be displaced and so a further unemployment problem would be created; (2) by the reduction in the money rates paid to the agents of production (chiefly labor). This reduction in money wages would not involve a decline in real wages, since prices, under the assumption made, had already fallen. In point of fact, however, it is not likely that the displaced labor would be employed in the first place except under the inducement of lower wages, since any expansion of output would have to be sold at lower prices.

It is important to distinguish carefully the two types of price declines just referred to.[6] The decline in prices made possible by labor-saving improvements need not involve any maladjustment in the cost and price relationship even tho wages were maintained at their former level.[7] But if there were a further fall in prices conse-

6. Cf. J. M. Keynes, A Treatise on Money, Harcourt, Brace, and Company, 1930, i, 207–208.

7. At least this would be the case under the ideal conditions of a perfectly free market and complete capital and labor mobility. In point of

quent upon the larger output resulting from the reëmployment of the displaced workers, a serious cost and price maladjustment would occur unless wages were also reduced.[8] If, on the other hand, the bank credit released by the cost-reducing improvements were subsequently utilized, the displaced labor could be reëmployed without any wage reductions.

Under certain conditions of institutional control of credit and wages, then, we cannot definitely assert that labor displaced by technological improvements will eventually be reabsorbed into industry.

III

We next assume that prices are not reduced, in spite of labor-saving improvements. In this event the employers would be the gainers. But their gain would be exactly offset by the loss suffered by the displaced workers; there would therefore be no net increase in purchasing power.

The employers might spend their added incomes or they might save them. If they spent them, the net effect would not be an expansion in the demand for goods, as is commonly asserted, but only a shift in demand from the types of consumers' goods formerly bought by the displaced workers to the types of goods purchased by the more well-to-do classes. Since we assume no decline in prices in the industries adopting the labor-saving methods, no released credit would be available for possible expansion. The unemployed labor could be absorbed only by under-cutting the wage-level.

fact maladjustments do occur, but this is a complicated matter which, for present purposes, would lead one too far afield.

8. The argument that the decline in wage-rates makes matters worse by reducing the community's buying power is fallacious for two reasons: (1) the buying power of the nation depends on the total money income not on the share of wages alone, (2) the buying power of wages depends not on wage-rates but on wage-rates and *employment*.

But suppose the employers chose to save their newly gained incomes. They might, for example, decide to put it back into their own businesses. In so far as the labor-saving improvements required additional capital, this would be quite the natural thing and indeed a sound policy. But if no new capital were needed, in this manner, further investment in a field that could enjoy no expansion of demand, would be wholly wasteful.

The cartel form of organization is especially guilty of blindly putting profits back in the business until capital equipment has expanded to a point at which there is gross over-capacity. The reason, of course, is that production quotas are to a large extent based on capacity, and so each member of the cartel wishes to expand his plant in order to obtain a larger output quota. In this manner, purchasing power, which might otherwise have gone into useful consumption, is simply wasted. But as far as the effect on the labor market is concerned, it makes absolutely no difference whether the employers spend the added incomes on consumption goods for their own use, or waste it in over-expanded plants in their own businesses.[9]

The case is quite otherwise if the employers choose to invest their extra incomes in the general capital markets. The capital supply would be increased; interest rates would fall. Highly complicated and expensive machines not formerly economical (at the higher interest rates) could now be introduced. Each laborer could be equipped with more capital; the marginal productivity of labor would be increased. But if this should occur in industries whose products faced an inelastic demand situation or were under rigid price control, the

9. The excess capacity might, however, in future result in a breakdown of cartel quotas, and so in an increased output of goods, lower prices, and cost and price maladjustments.

effect would merely be to throw still more labor out of work.

But lower interest rates would not only make it economical to substitute machinery for labor in the old established fields which faced an inelastic and saturated demand or which were under price control. Lower interest rates would also open up *new* fields for investment. Capital improvements uneconomical at 5 per cent become an economic proposition at 4 per cent. In this manner, through the successive steps of excess profits, larger capital accumulations, and lower interest rates, an expansion would occur in the production of capital goods. This eventually would have the effect of increasing the total output of goods. And unless there should occur an expansion in the monetary purchasing power of the community, a fall in the general commodity price level would ensue. Theoretically such a price decline would not necessarily imply a maladjustment in the cost and price relationship.[1] The lower interest rates and the higher productivity of the other factors (consequent upon the increase of capital) would tend to offset the lower prices.[2]

Thus, under the conditions assumed, the labor-saving improvements would add to the productive resources of the community in two ways: (1) they would displace a body of laborers who would become available for other work, (2) they would create new capital saved

1. See qualifications, however, in a previous footnote.

2. The relation between interest rates and the price level is a complicated one. Wicksell has shown that if the discount rate is below the real rate of interest, borrowing is stimulated and prices tend to rise. If the discount rate is above the real interest rate, borrowing is curtailed and prices tend to fall. Now it is true that a fall in the market rate tends to raise prices, but once the price movement is started the interest rate is drawn up after it. Thus interest rates tend to correlate *directly* with price movements. An increase in capital investment not only tends to lower the real interest rate, but also to increase the total output of goods and so tends to produce a fall in commodity prices.

out of the profits arising from the improved processes. The employment of each of these two added resources would necessarily increase the total output of goods and cause a tendency in the direction of falling commodity prices. The price decline consequent upon the employment of added capital goods would not necessarily cause a maladjustment in costs and prices. Not so, however, with respect to the displaced labor. The displaced labor could not be permanently reabsorbed at the old money wage level, unless the increased output of goods were balanced by an increase in monetary purchasing power, thus enabling a maintenance of the former price level. This would require additional credit. But since we have assumed rigidly controlled prices in the labor-saving industry, no credit could be released for use elsewhere. Should the displaced labor be absorbed in new industries, purchasing power would be deflected from the old industries, prices would fall, and with no fall in wages, certain firms would be unable to meet their costs. Thus labor would again be displaced. If the discharged labor is to be permanently absorbed, the cost and price relationship must not be disturbed. Since, however, the price decline here considered is not occasioned by a gain in efficiency (but merely by the employment of *more* labor), a corresponding reduction in wages is required.[3]

3. It is of course desirable to have the highest possible wages consistent with full employment. There is much force in Dr. Altschul's suggestion that there is such a thing as an *optimum* wage. If the wage is below the optimum there is a loss in efficiency (not primarily personal efficiency of the laborer, but more especially management efficiency, which of course affects the productivity of labor). If the wage is above the optimum there is an increase in unemployment. Cf. Eugen Altschul, "Lohnniveau und Kapitalbildung," Die Wirtschaftskurve, Heft iv, 1928.

IV

We have noted the effect, under certain conditions, of rigid trade union control of wages upon the absorption of displaced labor. Might not the restriction of output by monopoly control also prevent the reëmployment of discharged labor? Monopoly power, if universal, could indeed rigidly limit the total output of goods and thereby the employment of labor. The extent of the profits would then merely be a question as to how much the total money income of the community exceeded the total money paid out in wages. If wages went up, the monopolists, if in control of the banking system, could merely extend more credit to themselves, and so bid the limited output of goods away from the wage-earners. Prices would rise, but output being closely regulated, unemployed labor could not be reabsorbed into industry.

Let us take as a starting point Aftalion's[4] equation of exchange I=R P in which "I" is the money income of the country, "R" is the real income, the physical quantity of goods and services produced, while "P" represents the prices paid for these goods. Assume that "I" is controlled by the central banks, and that "P" is controlled partly by monopoly and quasi-monopoly power, and partly by the holding up of cost prices through working rules, customs, etc.— the striving of all classes for the highest possible income, as Conrad puts it.[5] If "I" is limited and "P" is artificially raised, it necessarily follows that the quantity of goods, "R" which can be sold at the abnormally high prices will be less than would otherwise be the case. Thus if the price level were maintained at an artificially high level in a

4. Albert Aftalion, Revue d'économie politique, May-June, 1925.

5. Otto Conrad, Absatzmangel und Arbeitslosigkeit als Dauerzustand.

community with a given money income, the total volume of goods and services which could be sold would be restricted and unemployment would of necessity ensue.

It is, however, scarcely thinkable that all prices can be controlled. The number of competing commodities and services that can be put on the market is so large and the conflict of interest so great (in contrast to the single "commodity" and large homogeneity of interest in the labor market) that universal monopoly is scarcely thinkable. There are, indeed, in modern societies numerous monopolies and quasi-monopolies, but total output of goods and services is far from subject to arbitrary control. Hence to control the general price level from the side of production is scarcely possible. And if "P" as a whole were not artificially boosted, no absolute restriction of "R" would result.

Nothing short of a complete control of the prices of all goods would be needed to bring about a curtailment in the employment of the agents of production. A partial control of prices would merely produce a re-distribution in the output of goods and services. The real income might indeed be less in terms of utility, but there would be no absolute curtailment of the outlets for the products of the agents of production, provided the prices of these agents were determined by free market forces. If, however, the price of one of the agents were controlled, other agents would be substituted for it to such an extent that a part of this agent could find no employment. The result would be an absolute curtailment of "R" due to the idleness of a part of this productive agent.

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NOTES AND DISCUSSIONS

THE DECLINE OF THE COMMERCIAL LOAN

THE relative decline of the commercial loan in this country since the war has frequently been commented upon. The extent of the decline, however, has not generally been realized. The percentage of "all other loans," commonly regarded as commercial, of national banks to total earning assets declined from 57.5 per cent in 1920 to 37 per cent in 1929. Between 1900 and 1914 the percentage varied between 45 and 47. For all member banks the decline from 1925 to 1930 has been from 39.3 per cent to 32 per cent. Commercial loans in the strict sense (loans eligible for rediscount) declined relatively to other assets of national banks from 21.2 per cent in 1923 to 13.9 per cent in 1929. For all member banks they amounted to only 10.7 per cent on September 24, 1930. For all member banks from 1925 to 1930 "all other loans" declined not only relatively but absolutely.[1]

The theory underlying the Federal Reserve Act is that the main function of banks is the provision of commercial loans. This may be seen in the restriction of eligibility for rediscounting purposes to those loans made for strictly commercial purposes; in the express discrimination against loans for investment and speculative purposes; in the attempts to foster an acceptance market to supplant the call money market; and in the provision that Federal reserve notes must be covered above the 40 per cent gold requirement by commercial paper.[2] Hence the decline of commercial loans has important bearing both upon the theory underlying the Act and upon the practical operation of the system. It has, moreover, bearing upon various theories of the business cycle. It is proposed in this paper to examine the causes of the decline and to attempt to answer the question whether it is of a temporary or permanent character.

1. All percentages calculated from data in the Annual Reports of the Comptroller of the Currency and of the Federal Reserve Board, and the Federal Reserve Bulletins.

2. This has been modified to the extent that member bank bills discounted, secured by government securities, may also serve as note cover.

The decline in commercial loans has not taken place solely because bankers have shown a dislike for this type of loan. Many bankers have, on the contrary, deplored this decline and would gladly have increased their commercial loans if satisfactory applications had been forthcoming. We must look at the question from the borrower's point of view, and seek to discover the motives which have led him to reduce his bank loans. There are three main classes of borrowers, the larger corporations, the small merchant and business man, and the farmer.

Loans of the larger corporations are obtainable from their financial statements reported in Poor's and Moody's Manuals. The tables below present in condensed form, for the period 1922–1928, the results of a study of the annual statements of 729 companies, divided into 30 groups. The basis of selection was availability, all companies being included for which continuous reports, in a sufficiently detailed form, were given for approximately the same dates. The great majority of the reports are as of December 31. The series could not have been carried back to 1921 or extended to 1929 without reducing seriously the number of continuous reports. Altho care was taken to include the available reports of all the smaller companies and also of companies in depressed industries, the series, as a whole, is mainly representative of the larger and more successful companies, owing to the greater availability of their financial statements. This is illustrated by the fact that the average quick assets per firm had grown from $11,742,000 in 1922 to $15,479,000 in 1928. Altho the average bank loan had fallen from $929,000 to $582,000 in the same period, the latter figure represents a loan that could be handled only by the larger city banks.

TABLE 1. CURRENT ASSETS, INVENTORIES, CURRENT LIABILITIES, AND NOTES PAYABLE OF 729 COMPANIES 1922–1928
($000,000 omitted)

	1922	1923	1924	1925	1926	1927	1928
Current Assets ...	8,572	9,130	9,643	10,532	11,101	10,669	11,305
Inventories	3,965	4,538	4,539	4,810	4,975	4,877	5,053
Current Liabilities	2,265	2,456	2,260	2,437	2,448	2,252	2,461
Notes Payable....	678	757	576	538	446	464	425

TABLE 2

PERCENTAGE OF NOTES PAYABLE TO INVENTORIES OF 30 GROUPS OF COMPANIES 1922–1928

Number of Companies		1922	1923	1924	1925	1926	1927	1928
23	Chain Stores	5.7	8.4	3.9	2.5	2.6	2.5	5.2
17	Automobile Accessories	22.3	22.4	10.8	12.1	9.0	6.8	5.9
5	Milling	51.0	49.0	52.8	48.4	27.7	13.9	16.0
23	Wholesalers	52.6	48.9	51.5	53.6	54.7	45.0	39.2
16	Railway Equipment	7.0	5.5	3.9	2.3	2.5	4.5	3.4
20	Shoes and Leather	30.3	34.1	22.7	18.3	18.8	19.7	19.9
11	Department Stores	3.9	7.7	9.9	14.0	12.1	12.8	16.1
16	Rubber	45.3	39.1	27.6	4.6	13.8	12.2	24.2
73	Cotton Textiles[3]	58.2	65.7	63.0	56.8	36.6	36.2	30.3
31	Machinery	11.4	13.1	11.9	12.1	11.0	5.2	4.6
22	Apparel	33.2	40.9	23.7	21.4	12.1	11.8	15.2
15	Chemicals	6.2	3.8	5.1	1.6	3.6	2.6	2.9
22	Electrical Apparatus	3.4	2.8	5.7	2.8	2.8	3.7	1.0
12	Packing	45.9	41.9	29.3	28.3	24.1	21.6	18.8
10	Agricultural Implements	15.4	17.5	9.3	10.8	7.5	6.0	5.2
19	Sugar	36.1	18.5	24.3	49.4	49.0	49.7	35.0
36	Food Products	28.8	22.0	16.3	11.8	17.0	9.8	11.3
55	Oil	7.2	9.8	8.1	8.4	4.1	4.5	2.3
46	Steel	9.5	5.0	3.1	1.2	1.4	1.9	.8
26	Copper	1.7	2.4	2.2	3.6	.6	9.2	8.6
12	Woolen Textiles	23.7	17.5	22.9	22.9	15.8	10.9	10.2
12	Printing and Publishing	20.3	8.4	12.9	13.1	2.4	3.7	.4
28	Miscel. Manufacturing	28.4	19.9	16.3	13.7	14.3	13.0	4.9
16	Amusements	21.4	22.7	11.2	8.0	16.9	14.8	9.4
28	Metals — other non-ferous	2.1	4.1	3.3	1.5	2.1	4.6	1.6
25	Automobiles	6.5	5.8	3.0	1.3	1.3	2.3	1.1
18	Coal Mining	8.4	41.0	27.6	17.0	27.7	40.6	60.8
22	Paper and Paper Products	36.6	39.5	25.1	22.9	5.6	17.6	41.8
44	Building Equipment and Furniture	17.1	22.6	14.2	11.8	6.0	10.5	6.6
26	Building Materials	30.7	17.0	12.8	13.6	13.2	10.4	13.2
	All Companies	17.1	16.7	12.7	11.2	9.0	9.3	8.4

3. Data from Moody's and Poor's Manuals on cotton textile companies were supplemented by data obtained from the credit files of the Federal Reserve Bank of Boston.

It will be noticed that the proportion of inventories that is financed by bank loans[4] is surprisingly small. At the end of 1928 bank loans amounted to only 8.4 per cent of the inventory of companies whose statements were tabulated. They amounted to only 3.8 per cent of current assets.

The most significant general fact brought out by these tables is the steady decline in notes payable both absolutely and in relation to inventories. It is still more significant that this decline did not involve one or two big industries only, but was due to a general decline participated in by 25 of the 30 groups listed. The proportion of notes payable to inventories in the sugar industry was approximately the same in 1928 as in 1922; it was higher in only four groups — department stores, paper, coal mining and copper. Obviously, an explanation of the decline must be of a general nature and not in terms of the conditions peculiar to a few industries.

Many explanations have been advanced to account for this change. The one most commonly offered is that with improved transportation and fear of inventory losses, industry has adopted a policy of hand to mouth buying. Lower inventories, of course, mean less demand for bank loans.[5] A glance at Table 1 shows that this explanation is inadequate. Inventories for the companies investigated actually increased by over a billion dollars from 1922 to 1928, while bank loans decreased by $253,000,000.

Another theory attributes the decline to the growth of larger companies that have access to the bond and stock markets. The tables above, representing mainly the larger publicly owned companies, indicate that the percentage decline in bank borrowings for such companies has been greater than for industry as a whole, as shown in banking statistics. Moreover, it was found in preparing the tables that generally (altho there were important exceptions), the largest companies in an industry had no bank loans outstanding. As the

4 Altho not all notes payable are bank loans, the great majority are, so that for the purpose of the argument of this paper they may be regarded as identical.

5. See, for example, Recent Economic Changes, Section by W. R. Burgess, vol. 2, p. 664.

larger companies oust the smaller, and as the larger companies reduce their bank loans, total commercial loans, obviously, will decline. This is undoubtedly part of the explanation. But the mere fact that a company is able to borrow by means of a bond issue or raise funds through stock issues does not necessarily mean that it should and will. A further explanation is necessary, to show why companies that can raise long-term capital prefer to do so rather than borrow from the banks. During the period under review the rate on industrial bonds was nearly as high as that on bank loans, while call money rates were low. It seems improbable, therefore, that companies could reduce direct costs by substituting long-term loans for short.

Still another explanation attributes part of the decline to the growth of finance companies. By taking over "accounts receivable" they reduce industry's need for bank loans. This is probably one of the factors contributing to the decline. There are reasons for believing, however, that it is not a very important factor. Manufacturers do not to any extent discount their accounts receivable with finance companies, as the practice is generally regarded not as conservative but rather as a sign of weakness. The one noteworthy exception is in the automobile industry, in which makers' sales to dealers are usually taken over by finance companies. In so far as finance companies borrow from banks, their loans are included in our figures for commercial loans. Even in 1922, however, before the great increase in installment selling, bank loans of automobile manufacturers were very small, comprising, according to the writer's investigation, but $23,500,000 or only 6½ per cent of inventory. Banks have for the most part refused to handle either dealers' or consumers' automobile paper directly.

The part played by the finance companies must be regarded not as the main cause but rather as a contributing factor in the decline of the small mercantile loan. Unfortunately we have no figures for such loans altho it is believed that they amount to a large sum in the aggregate. Here again, however, the writer feels that in so far as such loans have de-

clined, the major causes must be sought elsewhere. Finance companies have for the most part granted a new type of loan, that to the consumer, and have not taken over an old type from the banks. Only in cases where merchants formerly had to borrow from the bank in order to grant charge accounts to their customers, but now discount these accounts with finance companies, can there have been a decline in commercial loans on this score.

It does not seem probable, again, that the growth of the acceptance has been an important factor in the decline in member bank line of credit loans. For the most part, farmers borrow for the purpose of buying equipment and harvesting crops, and leave the marketing of the crops to other agencies. Much of the growth of the acceptance market has been at the expense of London and not of the domestic line of credit loan. So far, of course, as dealers have financed the carrying and sale of products by acceptances rather than by direct bank loans, and so far as the buyers of such acceptances have been Federal reserve banks and foreign banks, the commercial loans of member banks are less than they otherwise would be. Up to the present this also can only have been a minor factor in the decline of member banks' commercial loans.

The main explanation of the decline of loans of the larger borrowers offered by the writer is as follows. The theory that makes the temporary saving of interest the main motive for borrowing is essentially a theory of static conditions. It assumes implicitly that the borrower's own capital and long-term borrowings can be continuously employed and that there are no cyclical variations in output and profits. From a dynamic point of view there are dangers inherent in the practice of borrowing which, in the eyes of the larger industrialists, far outweigh the temporary advantage of a small saving in interest changes. The dangers are those associated with "trading on a margin." If a heavily indebted firm experiences an increase in gross income, a large part of the increase can be carried to net income, due to the fact that fixed charges remain constant. On the other hand, a decrease in

gross earnings will be concentrated on net earnings. If the industry is one in which a steady annual increase in gross earnings can be confidently expected, the small danger in borrowing is offset by the prospect of large increases in net income due to the large proportion of relatively fixed charges. There are, however, few industries which can confidently anticipate a yearly growth of gross earnings. The electric light, power, and gas industries have been most nearly in this position, and consequently we find the percentage of the capital represented by bonded indebtedness larger in those industries than in most others. Altho railroad gross returns do not fluctuate very much, the heavy bonded indebtedness of most railroads causes their net earnings to fluctuate considerably. Many a railroad has failed because its management overstepped the bounds of safety in financing it too largely with borrowed money.

It is surely obvious that, other things being equal, the more heavily a company is in debt, either for long or short periods, the more will its net earnings fluctuate and the greater the danger of bankruptcy. A short-term loan has the added disadvantage that not only must the interest be paid but the loan itself is expected to be liquidated at a near date. A change in business conditions may render this impossible; and altho the alternative may not be bankruptcy, both the bank and the borrower are placed in an embarrassing position. A striking illustration of the danger of an unwieldy floating debt was presented by the case of the Fox Film Corporation, a prosperous company, in 1929. Aid from investment bankers, the alternative to a receivership, was secured only at a heavy cost and the relinquishment by Mr. Fox of control of the company that bears his name.

Altho there have been numerous instances in recent years where companies have issued bonds for the purpose of funding their bank loans,[6] this has not been the typical process by which loans have been reduced. In many cases such bank loans should not be designated as commercial. They were

6. The United States Rubber Co. eliminated a bank debt of $30,000,000 in this way in 1925.

used for fixed capital purposes which it was inadvisable, either because of the state of the bond market or for other reasons, to finance at the time by a bond issue. It is a common practice of public utilities, for example, to finance expansion through bank loans which are expected to be funded when they reach a sizable total. The usual process by which bank loans have been reduced is through excess of earnings over dividends, or through new stock issues. By these means, in many cases, funded debt has also been reduced. The peculiar situation has arisen whereby the existence of the items funded debt, and particularly bank loans, on a financial statement is regarded almost as a sign of weakness. Their elimination is referred to by company chairmen with gratification and by security analysts with approval. When, in 1929, the United States Steel Corporation eliminated a large part of its funded debt through a new stock issue, the financial community applauded the action as strengthening the investment worth of the stock. The drastic decline in gross earnings in 1930 showed the wisdom of the previous reduction in fixed charges. It is probably true that the stockholder's equity in American business is larger than ever before.

The larger and more successful companies have not been content with elimination of debt but have, in addition, acquired working capital far in excess of seasonal needs. It is becoming fairly common to find large holdings of deposits, government securities, or call loans, not as temporary employment for idle funds during seasonal recessions, but as a normal and permanent condition. Some theories of the business cycle picture business men as activated by a strong desire to expand output at any cost at the slightest sign of increased profits. However true this may have been before the war, the lesson of 1920–1921 has not been forgotten. Expansion has proceeded at a more even pace out of reinvested earnings and not at the expense of what business men significantly refer to as an impairment of the financial strength of companies. In the period covered by this investigation the

ratio of current assets to current liabilities increased from 3.7 to 1 to 4.6 to 1.

We may return to a point which has already been touched upon. In order to bring about a reduction in bank loans we need not only willingness but also ability. In successful businesses the funds for the liquidation of loans are obtained from earnings and new stock issues. Other firms, however, whose loans are large in relation to earnings and whose stock has no active market, may experience difficulty in reducing their loans. Of the seven groups of companies shown in Table 2 whose bank loans amounted to more than 20 per cent of the inventories in 1928, five were of this description. These groups were shoes and leather, cotton textiles, sugar, coal mining, and wholesale merchants. All these groups were suffering from more or less chronic depression in the preceding years and were for the most part unable to reduce their loans either through earnings or through stock or bond issues. The two remaining groups which in 1928 had large bank loans were rubber and paper manufacturing. Percentages for both these industries are distorted by the inclusion of the International Paper Company and the United States Rubber Company. Particular circumstances account for the borrowing policy of both these companies. The percentage of notes payable to inventories of the remaining paper companies investigated declined from 23.6 in 1922 to 9 in 1928; and likewise the percentage for the remaining rubber companies declined from 52.2 to 15.3 in the same period.

The size of a loan, of course, does not depend solely on the desires of the borrower. While banks are apparently willing to tide an industry over a bad year, they are unwilling to continue loans to an industry permanently depressed. Judging from the drastic curtailment of inventory of the cotton textile companies investigated (from $161,000,000 in 1923 to $101,000,000 in 1928) it seems probable that pressure to liquidate loans was brought to bear by the banks. Other bank loans to this industry, not included in the figures, were paid off through a liquidation of the companies themselves. Still others were charged off as bad debts.

The present investigation, as far as it goes, tends to support the view that much of the borrowing from banks is motivated not so much from the economies believed to be associated with the borrowings as from inability to raise funds in other ways. For a small company or for a large one whose earnings are receding it is virtually impossible to raise funds either through a bond or stock issue, and banks are the only practicable source of supply. The greater the stockholders' equity at such times the greater the borrowing power. This factor may enter into the desire to liquidate rather than borrow in prosperous periods. Altho only the larger companies were studied, it is highly significant, in view of the apparent trend toward larger scale units, that the companies which are growing most rapidly, and would therefore appear to require larger loans, actually reduced them to a nominal figure, while companies whose earnings were poor or declining were carrying heavy bank loans and in some cases actually increasing them. It appears that the desire to liquidate loans pervaded all industry, since in those cases where loans were still relatively heavy in 1928, the ability to liquidate was lacking. This desire, in turn, would seem to be largely in consequence of the recognition of the extent to which loans intensify the danger of a drastic fall in net earnings and insolvency. Altho this danger must always have been apparent to thoughtful business men, the experience of 1920–1921 brought it home to them in a more striking manner than ever before. The opportunity to liquidate, presented by nearly a decade of prosperity accompanied by an active and rising stock market, was seized upon. The severe depression of 1930 undoubtedly confirmed business leaders of the wisdom of their policy.

A most important and at the same time a most difficult question may be touched upon. Has the recent decline in commercial loans relative to other bank assets been a temporary phenomenon, associated with the conditions peculiar to the security markets in the post-war period, or are there grounds for believing that the decline is of a permanent char-

acter? The American Bankers' Association has placed itself on record in support of the former view.

"We recognize the fact that as corporations which have secured funds through the issuance of securities in excess of current requirements continue to expand they will gradually return to their former relations with their bankers, under which they naturally borrow through the issuance of eligible paper while processing materials and distributing production. We therefore look upon the present situation as one which will undoubtedly correct itself as time goes on."[7]

The writer doubts whether the situation will "correct" itself and believes that there is a strong possibility that commercial loans will represent a still smaller proportion of bank assets.

As far as the larger companies are concerned the future of the commercial loan is not bright. According to our analysis the main cause of the reduction in loans was not the temporary excess of liquid assets arising from stock issues, but a realization of the dangers inherent in loans of any description and particularly bank loans. The issue of stock was merely one of the means by which business leaders were able to get out of debt. It is evidence of their repugnance to borrowing that even the rapid expansion of plant was usually accompanied by reduction in debt. Since the dangers associated with bank borrowings will remain as long as there is change in the economic world, it is probable that, given ability, those companies which are now out of debt will endeavor to remain so and those which still have bank loans outstanding will continue to reduce them. The liquidity of the larger corporations is, at present, so strong that only a protracted period of severe depression would make short-term borrowing necessary. During such a period, however, bankers are concerned with their own solvency and might be reluctant to extend their unsecured loans.

Altho only 729 companies are included in Table 1 they accounted for over $11,300,000,000 of the current assets of American industry in 1928. Yet this large section accounted for only $425,000,000 bank loans. No railroads or public

7. Resolution passed by Fifty-fourth Convention American Bankers Association. Journal A. B. A. 1928, p. 361.

utilities, and only twenty-three chain stores, were included. If all the companies in these groups had been included the proportion of industry in general represented would have been very greatly increased, with very little increase in bank loans. As the "all other loans" of member banks alone amounted to $12,000,000,000 on December 3, 1929,[8] it would appear that the great bulk of this total must be represented by loans to farmers and relatively small business concerns. It would seem, therefore, that the future of the commercial loan is closely connected with the future of these two classes of borrowers.

It is obviously impossible to discuss in a short paper the large and controversial question of the trend toward large-scale operations. I shall merely point out that if the general argument of the preceding pages is correct — that the major part of commercial borrowing from banks takes place because of inability to raise funds in other ways — and if economic progress continues to be associated with the growing relative importance of the larger corporations having access to the stock and bond markets, there is a strong probability that the commercial loan will continue to decline relatively to other bank assets.

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8. Annual Report Federal Reserve Board, 1929, p. 105.

THE RÔLE OF PRICE IN THE INTERNATIONAL TRADE MECHANISM

THERE is, perhaps, no work to which the classical theorists of international trade point with greater satisfaction than Professor Viner's Canada's Balance of International Indebtedness. As an example of inductive verification, it stands as a monument to the classical tradition, with a significance extending beyond the field of foreign trade theory. The classical theory of foreign trade rests upon a very important assumption, the quantity theory of money. The verification of the former implies the validity of the latter. The quantity theory attributes to price a passive function in the self-adjusting trade mechanism. Upon this function of price depends the operation of the foreign trade mechanism of the classical theory. It would seem that this aspect of Professor Viner's investigation deserves the most careful examination. Professor Angell in his analysis of the statistical material of the Canadian investigation has made some refinements in the treatment of the data.[1] These refinements, in turn, suggest others, which, when supplementing those of Professor Angell, reveal a sequence in the Canadian international trade mechanism different from that described by either Professor Viner or Professor Angell and unaccounted for in the classical theory.

The Canadian situation from 1900 to 1913, the period covered by Professor Viner's investigation, was one predominantly characterized by heavy foreign borrowing on the part of Canada. Professor Viner's problem was to discover what effect this continuous and increased borrowing, principally from Great Britain, had upon the Dominion's balance of trade and what sequence of changes in the adjustment process brought it about. In line with the predictions of the

1. The Theory of International Prices, ch. VI, sec. 9 and app. B, sec. 1.

classical theory, he found that the loans to Canada were for the most part ultimately paid in the form of goods and services, and that this result was effected by a rise in the country's domestic prices, which discouraged exports and stimulated the buying of lower priced foreign goods. The rise in prices resulted from the importation of capital.

He discovered that the Canadian experience, however, departed slightly from the older classical analysis at one point. The gold flow into Canada resulting from foreign borrowing was not sufficient to account entirely for the great rise in Canadian prices. The surplus of bills on London created by English loans to Canada never attained great enough proportions to force sterling rates to the gold import point for Canada. Instead of permitting London bills to accumulate on the Canadian market and depress exchange quotations, the Canadian banks sold them to New York, and thereby built up their New York balances or "outside reserves." But on the basis of these outside reserves the Canadian banks were able to extend credit at home. Price inflation resulted as if gold had been imported. In other words, a substitute was found for the gold flow in the Canadian case in the form of increased outside reserves.

The sequence of events, then, according to Professor Viner, was this: (1) foreign borrowing, (2) increase in outside reserves, (3) extension of credit at home, (4) rise in the country's price level, and (5) an increase in imports over exports equal to the loans.

The question naturally arises whether Professor Viner's data show this sequence to be actually the case. His data do show conclusively for the period under study that the heavy foreign borrowing was accompanied by a great increase in outside reserves, in bank deposits, reflecting the country's credit expansion, and in Canadian prices in general, and by the development of a large excess of commodity and service imports over exports approximately equal to the loans. But he makes no attempt to discover in the increasing magnitudes

of the several series any sequence of lags. Professor Angell, however, does.[2]

Professor Angell points out that of the new borrowings for the period in question 42 per cent represented "debits on capital account," consisting principally of interest and amortization, and that of the remaining 58 per cent, termed "net capital imports," the small amount spent at home was the only part of the total loans to Canada which was at all effective in inflating Canadian prices. This small but significant part of the net capital imports into Canada is known as the "excess of net capital imports" and is measured "by the excess of net capital imports over the net volume of commodity imports, plus freight-service imports, and so forth." It is this excess which remained on deposit in the outside reserve of the Canadian banks to serve as a basis for further extension of credit at home, causing a rise in the Canadian price level.

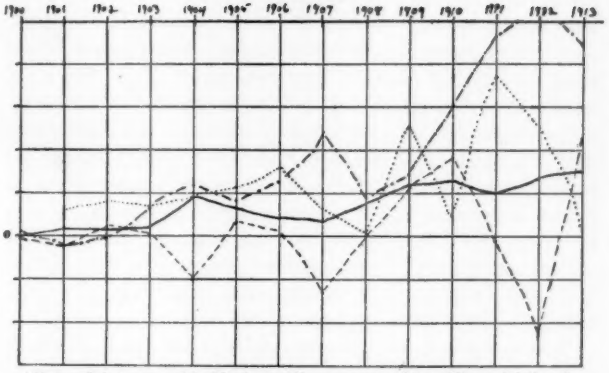
Professor Angell correlates the excess of net capital imports with the annual increase in bank deposits and finds that "the changes in bank deposits *followed*, with a lag up to a year, the changes in the excess of net capital imports over the final means of payment." He also shows that the fluctuations in the net imports of commodities have a characteristic tendency to lag about a year behind those in the bank deposits. Both of these correlations are reproduced in Chart I.

The sequence of events which Professor Angell establishes, then, is this: "Increase in volume of borrowing, excess of capital imports over final means of payment, increase in bank deposits, rise in prices, increased excess of commodity imports over exports and final transmission of capital imports primarily in the form of commodities." The increase in bank deposits lags about a year behind the excess of net capital imports and the excess of commodity imports over exports lags about a year behind the increase in bank deposits. But what about the lag in prices? That is assumed.

It remains, then, to correlate Canada's prices with its excess of net capital imports and annual increases in bank deposits to discover, if possible, a lag in prices, which, to fit

2. Op. cit.

CHART I



(Intervals between marked horizontal lines represent fifty millions of dollars for capital and trade movements and five points for the price differential.)

——————— Rise of Canadian prices above world prices
— — — — — — Excess of net capital imports
..... Annual increase in bank deposits
— · — · — · — Excess of commodity imports over exports

into the classical analysis, would have to follow bank deposits. The significant thing, however, to note about Canadian prices is not their absolute rise, but their rise relative to world prices, which also were climbing to higher levels during this period. Professor Viner advises that "the fairest comparison is probably between Coats's Canadian and world indices for the same 145 commodities."[3] The difference between these two indices is plotted in Chart I alongside of Professor Angell's curves for the other series.

An examination of the chart shows that prices rose first. They appear to be the active factor in the situation, all the others following with a lag, and for the most part prices maintain their lead throughout the period. In reality, then, the sequence appears to be this: increase in prices, importation of capital, increase in deposits, excess of net commodity imports over exports. For instance, the first upward move in the four curves occurred in prices, reaching a peak in 1904,

3. Canada's Balance of International Indebtedness, p. 218.

followed in 1905 by a development of an excess of net capital imports, in 1906 by a peak climb in deposits, and in 1907 by a record excess of commodity imports over exports. Similarly, the fall in prices in 1905 was followed in 1906 by a decline in capital imports, in 1907 by a retardation in deposit increases, and in 1908 by a falling off in net commodity imports. From 1907 to 1910 prices and the excess of net capital imports rise together. But not even here can one possibly detect any causal connection running from capital imports to prices, for the increase in bank deposits, the medium through which the connection would be effected, lags behind the price incline, except in one year, 1910, "when deposits reacted after their too abrupt rise in 1909." [4]

This is the only point in the chart (1909–1910) at which the classical analysis might be applied, and even then only inconclusively, owing to the absence of lags in the movements of the several series. It is regrettable that only yearly data are readily available. The problem of timing in the matter of lags is a difficult one. But, whatever conclusions may be drawn from the material in the form at hand, they do not promise the classical theory much in the way of support even by an analysis of data for less than yearly periods. In the year 1909 deposits did rise with prices, accompanied by an excess of net capital imports. In this one year, then, the evidence does not altogether preclude a causal relation running from loans to prices and on to an excess of commodity imports. But in the next year, 1910, the continued rise in prices is accompanied by a falling off in deposit increases, and therefore such a causal connection does not appear likely. By 1912 prices are again definitely in the lead, followed in 1913 by the development of an excess of net capital imports. Presumably, if the period of study were extended a year, 1914 would show an upward turn in the deposit curve.

Altho the first four years of the period (1900–1903) are characterized by only slight changes in the magnitudes of the several factors, yet the variations are great enough to reveal the same sequence of events. The price rise of 1901 is followed

4. Angell, op. cit., p. 508.

TABLE I
DATA OF CHART I

Year	Capital and Trade Movements[1] (in million dollars)			Prices[2] (1900=100)		
	Net commodity imports[3]	Excess of net capital imports[4]	Annual increase in bank deposits	Canada — Coats's Index (145 commodities)	World — Coats's Index (145 commodities)	Spread between Canada and world prices
1900	4	−2	...	100.0	100.0	0
1901	−12	−13	29	100.5	99.8	0.7
1902	−3	11	42	102.7	102.0	0.7
1903	38	3	37	103.3	102.3	1.0
1904	59	−49	48	105.3	100.9	4.4
1905	40	15	56	108.1	104.6	3.5
1906	62	7	80	110.9	108.7	2.2
1907	122	−67	33	115.6	113.8	1.8
1908	45	−2	3	113.3	109.4	3.9
1909	73	58	126	116.0	110.0	6.0
1910	154	89	24	119.0	112.8	6.2
1911	232	−8	184	121.3	116.3	5.0
1912	275	−112	125	129.2	122.6	6.6
1913	223	113	6	128.7	121.2	7.5

[1] Angell: Theory of International Prices, app. B, table I.
[2] Viner: Canada's Balance of International Indebtedness, p. 217.
[3] Minus sign: net export.
[4] Minus sign: net capital imports are *less* than the combined total of "final" means of payment (net commodity imports plus other net non-loan imports).

in 1902 by the appearance of an excess of net capital imports and an increase in bank deposits, and in 1903 and 1904 by a large unfavorable trade balance.

The rather disproportionate rise in 1904 in the net commodity import curve, compared to the upward price trend in 1901, may call for some explanation. In the first place, a comparison of Canadian general wholesale prices with world prices, indicated by the price curve in the above chart, is a very conservative comparison when it is remembered that in the world price index are represented not only Canada herself but other capital borrowing countries, such as Australia, New Zealand, and the United States. A comparison of the wholesale prices of Canada and of Great Britain, the capital-lending country, uncovers in 1901 a very noticeable increase

in the prices of Canada over those of Great Britain.[5] In the second place, Canada's general wholesale price index fails to reveal the sudden high rise in domestic prices beginning in 1901, because of a considerable offsetting decline in import prices, which reflect international conditions rather than local ones. The domestic prices constitute the most important price group. As supply prices, they condition the rise in export prices. Table II permits a comparison between Canada's domestic and general prices. It seems reasonable, therefore, to accord the price rise of 1901 greater significance than would appear justified in Chart I. Certainly this initial rise can not be attributed to capital imports, for Chart I shows for this year no excess of net capital imports.

TABLE II

CANADIAN PRICES*

Year	Domestic Prices	General wholesale Prices
1900	100.0	100.0
1901	111.5	100.5
1902	118.5	102.7
1903	119.1	103.3
1904	119.1	105.3
1905	120.9	108.1
1906	122.8	110.9
1907	135.6	115.6
1908	133.6	113.3
1909	141.0	116.0
1910	145.7	119.0
1911	151.4	121.3
1912	161.8	129.2
1913	161.7	128.7

* Viner: op. cit., p. 230.

The question now arises, what caused the rise in Canadian prices — more specifically, domestic prices — and how did this rise affect the other factors in the situation? The following is suggested by way of explanation.

Canada's economic development had reached a point by 1900 where further progress awaited industrial expansion and the wealth of the country's resources offered great profits to

5: Viner, op. cit., p. 219:

those who would devote energy and money to the building of the required railroads, factories, and mills. This industrialization made great demands upon labor and certain local commodities. Higher wages and prices had to be offered to tap marginal supplies. The higher wages and prices paid by the more lucrative industries raised the costs of production generally, and consequently prices. The products and services of some domestic industries, on the other hand, such as railroads and public utilities, industries of decreasing costs, declined in price as a result of industrial expansion.[6] Nevertheless, the keenness with which these industries bid for labor and supplies contributed to cost increases in others, particularly those operating under conditions of increasing costs. And so Canada's industrial development raised the prices, not only of many domestic goods for which it created a greater demand, but also of many domestic goods for which the demand had not changed or, conceivably, for which the demand had even slackened.

Professor Viner rejects this sort of explanation by the following argument: "If expansion of this sort in a given country was financed from domestic savings, it would mean simply, however, that those having purchasing power were voluntarily shifting their demand from consumers' goods to producers' goods and from labor engaged in producing consumers' goods to labor engaged in industrial development. What might be expected to happen would be that producers' goods would rise and consumers' goods would fall in price. The general price level should not be affected by this change in the character of the demand." [7]

This reasoning seems to ignore the importance of the credit mechanism in modern society. Its implication is that the amount of purchasing power at any moment is limited by present income; it makes no allowance for additional purchasing power from future income which the credit mechanism makes available. By means of credit expansion the price offers for producers' goods might increase without at all

6. Viner, op. cit., p. 244.
7. Ibid., p. 248.

diminishing the aggregate price offers for consumers' goods, or vice versa. Moreover, Canadian borrowing itself evidences the fact that the Dominion's industrial growth was dependent not only on domestic savings, but, even principally, on foreign savings.

As for the effect of the price rise on the other factors, there appears to be, in a sense, some causal relation running from prices to capital imports. The prospect of lucrative employment was, it is true, sufficient in itself to account for the flow of foreign capital into Canada; on the other hand, Canada's industrial growth would have been impossible, at least to the extent that it actually occurred, without the foreign capital. In order to purchase the greater volume of foreign commodities demanded and to facilitate increased business activity at home at the higher price levels, Canada had to increase her purchasing power by borrowing abroad. A part of the capital imports (excess of net capital imports) was allowed to remain in the outside reserves to serve as a basis for credit expansion within the Dominion. The other part was devoted to purchases abroad.

This analysis, however, is embarrassed by the fact that, according to Professor Viner's estimates, all but 1.6 per cent of the capital imports for the period as a whole was absorbed by imports of commodities and services.[8] Chart I shows an upward secular trend in Canadian prices for the fourteen-year period. An excess of net capital imports amounting to only 1.6 per cent of the total appears much too small to have provided Canada for the entire period with the increase in purchasing power necessary for carrying on a growing domestic trade at the sustained higher price levels. This fact is also embarrassing to the classical analysis, for it is only through the medium of the excess of net capital imports that the rise in Canadian prices can be accounted for. It is possible that Professor Viner's "direct" estimate of foreign investments in Canada is too low. He himself admits that there are serious gaps in the data and many inaccuracies in those available.[9]

8. Op. cit., p. 140.
9. Ibid., p. 108.

There is other evidence to support this possibility. If at the end of the period all but 1.6 per cent of the loans were accounted for by imports of goods and services, one would expect that fact to be reflected in a depletion of the outside reserves. But, on the contrary, the increases in outside reserves, cash reserves, and bank deposits were sustained for the period as a whole along with the rise in prices.[1]

Instead of finding that continuous heavy borrowing was the dominating factor in this period of Canadian history, one finds that change and industrial growth were the outstanding features. Instead of finding that the foreign borrowing inflated prices and thereby automatically set in motion a chain of sequences tending to establish an equilibrium in international prices, one finds that the rise in prices stimulated borrowing and that international prices were further from equilibrium at the end of the period than at any time during it.

But the broader significance of the above statistical results stands quite apart from the attempt at explanation. It is this. Static theory, as represented by the quantity theory of money and its corollary, the classical theory of foreign trade, is not applicable to dynamic phenomena. The principle of the foreign trade mechanism is not the same in both static and dynamic states, even when allowances are made for "disturbing factors." The Canadian mechanism bears few points of likeness to the *a priori* mechanism of the classical theory. Their point of divergence lies in the difference in the function of price in each.

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1. Viner, op. cit., p. 165.

THE NEW AMERICAN IMMIGRATION POLICY AND THE LABOR MARKET

On March 26, 1931, there was issued from the White House a presidential statement of far-reaching significance. It was an announcement of what amounts to a limited embargo upon immigration to this country. The first paragraph of the statement is as follows:

"President Hoover, to protect American workingmen from further competition for positions by new alien immigration during the existing conditions of employment, initiated action last September looking to a material reduction in the number of aliens entering this country. At his request, the Department of State examined the operation of the immigration law and reported that the only important provision of the law useful in the circumstances is that one requiring the exclusion of those who are liable to become public charges. Since then consular officials, charged with the duty of issuing visas to intending immigrants, have carefully examined each applicant. A tabulation completed today shows that during the first five months ending February 28, 1931 of the administration of the 'likely to become a public charge' provision, approximately 96,883 aliens did not receive visas who normally would have immigrated to this country."

Reports from 21 countries having large quotas indicate that during the five months' period 10,000 visas were issued as against a possible issue of 74,233 allowed under the quota, making an under-issue of 86 per cent.

The data concerning the so-called non-quota immigration from Canada and Mexico are particularly striking: "During the five months' period involved only 3,876 visas were issued to natives of Canada and 884 visas to natives of Mexico, as compared to 15,997 and 19,336 visas, respectively, in the corresponding five months of the last completed normal fiscal year, thus representing decreases of 75 and 95 per cent."

This effect is particularly noteworthy because Congress has consistently refused to apply any quota restrictions whatsoever to our neighbors in the western hemisphere.

The basis for the new administrative policy is also interesting. It rests upon the very vague prohibition against immigrants "likely to become a public charge"— a prohibition first applied in federal legislation in March, 1891, and aimed at paupers and near-paupers.[1] Since, according to the Federal Immigration Laws and the judicial interpretations which have been placed upon them, the Secretary of Labor and his subordinates have final power to decide questions of fact relating to exclusion or deportation, it can be readily seen that virtually any interpretation which the administrative officials may wish to place on the "likely to become a public charge" provision can be maintained without challenge.

On its surface, the present application of the prohibition is a temporary expedient, designed to meet the existing economic emergency. The recent history of the immigration policy of the United States suggests, however, that it is likely to become crystallized into a permanent policy. A revulsion of popular feeling might indeed bring about legislation restricting the arbitrary power of the immigration officials to exclude aliens coming to this country in search of work, — for this is what the new ruling amounts to. In view of the fact, however, that for the past forty years Congress has authorized increasingly severe and arbitrary immigration restriction and deportation, such a change of popular sentiment, for the immediate future at least, seems unlikely.

In this connection it may be observed that the first quota restriction law of 1921 was also passed as a temporary emergency measure, but that it was followed in 1924 by an even more severe restriction law, which, in 1929, became converted into the National Origins scheme of restricted immigration.[2]

1. Fairchild, H. P., Immigration. (Revised Edition). New York, 1925. p. 115.

2. Annual Report of the Commissioner General of Immigration for the Fiscal Year 1930. Washington, 1930. pp. 1–7.

The reduction in the volume of immigrants that has been brought about by the successive restrictions is noteworthy. For the decade ending 1910, total immigration had averaged 879,000 per year. For the decade ending 1920, it averaged about 570,000 per year, despite the fact that it dropped off drastically during the World War. On five occasions during these two decades a total volume of more than a million per year was reached. In sharp contrast is the record of immigration in the period of restriction. During the decade from 1920–1930 the average has been only 400,000 per year, and since 1927 it has shrunk steadily as follows: 1927, 335,000; 1928, 307,000; 1929, 279,000; 1930, 241,000. Moreover, in these recent years, the non-quota immigration from America has assumed increasing importance, or to put the matter another way, quota restrictions have sharply reduced the proportion of overseas immigration. Thus in 1930, out of a total of 241,000 immigrant aliens admitted, 88,000, or about one-third, came from America; whereas in the decade 1901–1910, out of a total of 8,795,000 admitted, only 361,000, or about one twenty-fourth, came from America. In addition, it must now be remembered that the newly inaugurated policy against "persons likely to become a public charge" has reduced the American immigration to a mere fraction of its former volume.

As indicated above, the probabilities are that, even tho this new policy may be modified somewhat as economic conditions improve, immigrants coming to this country for the sake of finding employment are likely to be excluded on a much larger scale in the future than they have been in the past. In any event, nothing less than a revolutionary change in the immigration policy of this country can upset the National Origins scheme, which limits overseas immigration to approximately 150,000 per annum.

Since American industry has become accustomed to continuous drafts of foreign-born workers, this drastic reduction in the number of persons immigrating to this country cannot but have a profound effect upon the American labor market. With a revival of business prosperity, a new exodus of the

southern Negro towards the industrial centers of the south and the north seems inevitable. A continuation of the general country-to-city migration of the past several years may also be expected. The report of the Secretary of Agriculture for 1929 estimates that, in the year 1928, there was a net movement of 598,000 from farms to cities. This compared, according to Galpin, with 193,000 for 1927, with 649,000 for 1926, and with 441,000 for 1925; the total net migration from farm to city for the four-year period being thus 1,881,000.[3] Obviously, however, this denuding of the country-side with its concomitant of industrial expansion cannot be continued indefinitely unless there should take place a very revolutionary change in agricultural technique.

Two alternative possibilities present themselves. The first is that American industry will adjust itself to a virtually stationary labor supply, which means that it will either have to curtail expansion or will expand only in those directions where it is profitable and technologically possible to do so by means of increased capital outlays. The second possibility is that there will be developed in this country an exceedingly mobile labor force and a highly organized labor market, by means of which workers will be transferred from one industrial center to another, following the ebb and flow of economic life. These two alternative possibilities might both develop side by side.

In any event, it seems clear that unless and until the American people authorize an about-face in their immigration policy, the next few years will witness a series of fundamental readjustments in the industrial labor market all over the country.

NILES CARPENTER.

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